INDIA AS KNOWN

TO

PĀṆINI

[A Study of the Cultural Material in the *Ashṭādhyāyī*]

By

V. S. AGRAWALA, M.A., PH.D., D.LITT.

Ex-Superintendent and Head of the Museums Branch, Department of Archaeology, New Delhi; Professor of Indian Art and Architecture, and Principal, College of Indology, Banaras Hindu University.

Second Edition,
Revised and Enlarged]

1963

Delivered as
Radha Kumud Mookerji Edowment Lectures for 1952
at the University of Lucknow

Published by Prithvi Kumar,
Prithvi Prakashan Varanasi-5

PRICE Rs 15/

Printed at the Tara Printing Works, Kamachha, Varanasi 1

TO

MY TEACHER

PROFESSOR DR. RADHA KUMUD MOOKERJI

WITH PROFOUND GRATEFULNESS

अष्टपुष्पिका

१. पाणिनीयं महत् सुविहितम् ।

२. महती सूक्ष्मेक्षिका वर्तते सूत्रकारस्य ।

३. शोभना खलु पाणिनेः सूत्रस्य कृतिः ।

४. यच्छब्द आह तदस्माकं प्रमाणम् ।

५. सर्ववेदपारिषदं ह्रीदं शास्त्रम् ।

६. पाणिनिशब्दो लोके प्रकाशते ।

७. आकुमारं यशः पाणिनेः ।

८. पाणिनेराचार्यस्य सिद्धम् ॥

१–भाष्य ४।३।६६। २–काशिका ४।२।७४। ३–भाष्य २।३।६६।
४–भाष्य २।१।१। ५–भाष्य २।१।६८। ६–काशिका २।१।६।
७–भाष्य १।४।८१। ८–कात्यायन ८।४।६८।

येन धौता गिरः पुंसां विमलैः शब्दवारिभिः ।
तमश्चाज्ञानजं भिन्नं तस्मै पाणिनये नमः ॥

Preface to the Second Edition

It gives me pleasure to record that my book *India As Known To Pāṇini* received wide welcome both in India and abroad. The rich historical and cultural material extracted from Pāṇini's *Ashṭādhyāyī*, and to some extent from its commentaries, and presented in a coherent form with critical interpretation has been appreciated by many scholars. The book seems to have established a methodology which has been adopted in several research dissertations with fruitful results.

The first edition printed in 1953 had become out of print for over two years and the book continued to be in demand. A second edition is now being published to bring it within the reach of the general reader. I have revised the book before sending it to the Press. Of the several Reviews, the one by Shri T. Venkatacharya under the caption "A Critique on Dr. Agrawala's India as known to Pāṇini" published in the Journal of the University of Gauhati, Vol. X, No. 1, Arts, 1959, pp. 85-112, while giving gushing praise to the work as a whole, pointed out several inaccuracies of interpretation. Such of them as I could accept have been incorporated in this revised edition with my humble thanks to the learned scholar.

Subsequent to the English edition I also prepared a Hindi edition of the book under the name पाणिनिकालीन भारतवर्ष, printed in 1955, which was even more elaborate than the English version.

A study of the material about *Gotras* in the Ashtādhyāyī was left out from the first edition. But the same has now been specially written giving an interpretation

of the *Gotra* institution against its cultural background and adding a critical text of Pāṇini's *Gaṇapāṭha* about *Gotras* on the same lines as I had done in the case of the geographical *Gaṇas*.

The book now offers a critical and detailed study of three typical institutions of the Sūtra Period, viz. *Charaṇa*, *Janapada* and *Gotra*.

Banaras Hindu University, V. S. AGRAWALA
28-2-1963.

Preface to the First Edition

The book aims at an examination of the geographical, social, economic, literary, religious and political data found in Pāṇini's *Ashṭādhyāyī*. The subject 'Pāṇini as a source of Indian History,' was suggested to me by my Professor Dr. Radha Kumud Mookerji M. A., Ph. D., while I was admitted to his Ph. D. class in 1929 as a Research Fellow in the Lucknow University. Chs. I—IV of the book substantially represent the Thesis approved by the Lucknow University for Ph. D. in 1941 and Chs. V—VIII for D. Litt. in 1946, with such additions and changes as later research made inevitable.

The value of such a study to Indian History can hardly be overestimated. It is due at once to the antiquity of Pāṇini's evidence, its definite and authoritative character as reliable as the history of India based upon epigraphic and numismatic records, and also to the singular fact in Sanskrit literature that the *Ashṭādhyāyī* is the work of an individual author (like its commentary the *Mahābhāshya*) and not the accumulated result of additions made to it from time to time by generations of teachers and pupils as happened in the case of the literature of Vedic *Charaṇas* or schools.

In a study of Pāṇinian evidence the greatest importance attaches to facts recorded in the *sūtras*. As already stated, the text of the *sūtras* with a few exceptions shown by Kielhorn is the same as that handed down from the time of Pāṇini. The *gaṇas* form an inalienable appendix to the *sūtras* and a genuine tradition of *Gaṇa-pāṭha* was known to Kātyāyana and Patañjali who at times have made the inclusion of a particular word in a *gaṇa* the basis of their comments. Unfortunately the present state of the *Gaṇa-pāṭha* has suffered from subsequent interpolations,

and although there is much valuable material especially concerning geographical, literary and *gotra* names found in the present *Gaṇa-pāṭha*, it has to be used with proper discrimination. I have always given preference to the *sūtra* evidence, but it does not mean that the *Gaṇa-pāṭha* can be ignored as useless accretion, for without it a substantial portion of the data of Pāṇini's language would remain unaccounted for. The contribution of the *Gaṇa-pāṭha* is of distinct value and its facts when substantiated by Pātañjali may be regarded as authentic. In all cases where evidence from the *gaṇas* has been utilized its source is plainly indicated.

No scholar of Pāṇini can do without the invaluable help offered by the commentaries, and I must record my indebtedness to Patañjali's *Mahābhāshya* and the *Kāśikā-vritti* without which this work would not have been possible. Prof. Max Muller was the first to point out 'that Pāṇini's *sūtras* were evidently from the beginning accompanied by a definite interpretation, whether oral or written, and that a considerable proportion of the examples in the *Bhāshya* must have come from this source (Weber, *History of Indian Literature* p. 225, f.n.). As an instance we may point out that Patañjali himself refers to a *Māthurī-vṛitti* which as stated by Purushottamadeva in his *Bhāshā-vṛitti* (1.2.57), was a commentary on the *Ashṭādhyāyī*, and was originally taught by oral instruction (*tena proktam, na cha tena kṛitam*, *Bhāshya*, IV.3,101 ; II.315) and later on compiled in the form of a book. The subsequent commentaries including the *Mahābhāshya* largely drew upon the older material. As Prof. Kielhorn has put it, 'We may, in my opinion certainly assume, that like Pāṇini himself, both Katyayana and Patañjali have based their own works on, and have preserved in them all that was valuable in the writings of their predecessors, (*Ind. Ant.* XVI. 106). Each case, however, has to be viewed on its own merits, and in the absence of more convincing proof the citations in the *Kāśikā* should not be pressed too far as evidence for Paṇini's own time.

The aphorisms of Pāṇini are rich in historical and cultural material. It has been my effort here, firstly to evolve a classified presentation of the same, and secondly to broaden the scope of its interpretation by focussing on it as much light as was possible from comparative sources, utilising for the purpose the great traditional commentaries on Pāṇini's *Sūtra*, like the *Vārttikas*, the *Mahābhāshya*, the *Kāśikā* as supplemented by the more important subsequent explanations, and secondly early Indian literature both Vedic and classical. In the course of my readings during the last twenty years, with mind constantly switched on to Pāṇini, I found light from many a source—Sanskrit, Pali and Prakrit, Brahmanical, Buddhist and Jain; and thus the work of understanding the true import of the cultural institutions in Pāṇini of which each word dealt with by him is a pointer gradually advanced. Words like *Jaya*, *Ashaḍa-kshīṇa*, *Rajā-pratyenas*, *Arya-Brāhmaṇa*, *Ākranda*, *Grāmaṇī Parishad*, *Chhandasya*, *Kāra*, *Haraṇa*—to name only a few out of hundreds—will bear testimony to the success of this method. Thus it has been possible to throw fresh light on a number of Pāṇini's *sūtras* by which their significance has been increased.

The Thesis reveals for the first time the deep relationship between the historical background of Pāṇini and Kauṭilya. The close proximity of their vocabulary and numerous items of cultural life common to both are worthy of greater attention, and point to underlying chronological relationships. Pāṇini is closely related in time to Kauṭilya by his numismatic data. It is very significant that there is not a single coin name in the *Arthaśāstra* which would reflect its late character. The numismatic evidence is completely in favour of its Mauryan date. Pāṇini must have preceded him by about a century or so.

References within brackets are to the *sūtras*, as (I. 1. 1) denotes the first *sūtra* of the first *pāda* of the first *adhyāya* of the *Ashṭādhyāyī*. For the *Mahābhāshya* text I have used

Kielhorn's edition, citing its reference by the number of volume and page ; *e. g*, III. 467 directs us to the last page of the last volume of that edition. In all other cases, the name of the author or the work quoted is indicated in a manner clear enough to follow.

I wish to express my grateful thanks to all previous writers whose works I have utilized in the preparation of this volume. The immense help and light which I have derived from them are not a mere matter of formal acknowledgment. I owe an obligation to the two volumes of *Word-Index* of the works of Pāṇini and Patañjali compiled by Sridharsastri Pathak and Siddheshwari Chitrao and published by the Bhandarkar Oriental Research Institute, Poona.

It is a pleasant duty to record my deep gratefulness to my Professor, Dr. Radha Kumud Mookerji, who prescribed for me this subject and whose constant help has greatly contributed towards the completion and publication of this work. In token thereof I respectfully dedicate this book to him. May this work be a small recompense to him for all the trouble he has taken on my behalf during the last twenty-five years. My sincere thanks are also due to Shri Sampurnananda Ji, Shri Chandra Bhan Ji Gupta and Acharya Narendra Deva Ji who kindly helped me in securing from the State Government of Uttar Pradesh through the Lucknow University a generous subvention in aid of the publication. I am also grateful to the authorities of the Lucknow University for inviting me to deliver a course of lectures in 1952 based on the contents of this book under the Radha Kumud Mookerji Lectureship Endowment Fund of the University.

I also thankfully remember the ungrudging help I received from my office-assistants, Shri Jagan Prasad Chaturvedi of the Mathura Museum, Shri Chandra Sen of the Lucknow Museum and Shri Gautan Dev Khullar of the C. A. A. Museum, New Delhi, in typing the Thesis and its finally revised press-copy. Shri G. S. Ramanathan of the

office of the Government Epigraphist, Ootacumund, and Shri Ram Shankar Bhattacharya Banaras, deserve my thanks for kindly verifying the references, I am indebted to my son Shri Skand Kumar, M. A. for preparing the Index and to Shri Bhupal Singh Bisht of the C. A. A. Museum, New Delhi for the Maps.

BANARAS HINDU UNIVERSITY
November, 17, 1953

V. S. AGRAWALA

CONTENTS

CHAPTER I

PĀṆINI: HIS LIFE AND WORK

CHAPTER II

GEOGRAPHICAL DATA

CHAPTER III

SOCIAL LIFE

CHAPTER IV

ECONOMIC CONDITIONS

CHAPTER V

EDUCATION, LEARNING AND LITERATURE

CHAPTER VI

RELIGION

CHAPTER VII

POLITY AND ADMINISTRATION

CHAPTER VIII

CHRONOLOGICAL CONSIDERATIONS

APPENDIX

MAPS

PLATES

CHAPTER I

PĀṆINI : HIS LIFE AND WORK

GRAMMAR (*Vyākaraṇa*)—Grammar was regarded by the Indians as the most important of the sciences ancillary to Veda (*pradhānaṁ cha shaṭsvaṅgeshu vyākaraṇaṁ, Bhāshya*, I. 1). The results attained by them in the systematic analysis of language surpass those arrived at by any other nation. "The Sanskrit grammarians were the first to analyse word-forms, to recognise the difference between root and suffix, to determine the functions of suffixes, and on the whole to elaborate a grammatical system so accurate and complete as to be unparallel in any other country." (Macdonell, *India's Past*, p. 136). Their singular achievements in this field have also rendered eminent services to Western philology.

The celebrated grammar of Pāṇini is the oldest surviving representative of this elaborate grammatical analysis of forms and linguistic investigation. Pāṇini is the architect of the magnificent edifice known as *Ashṭādhyāyī*, which justly commands the wonder and admiration of the world. His work may be regarded as the starting-point of the post-Vedic age, almost entirely dominating the classical Sanskrit literature by the linguistic standard set by it. His grammar regulates equally the language of both poetry and prose in Sanskrit. Pāṇini's work holds good for all ages so far as Sanskrit is concerned. It is a permanent influence and institution in the world of Sanskrit even to this day.

PĀṆINI'S GREATNESS—Weber regards Pāṇini's grammar as "superior to all similar works of other countries, by the thoroughness with which it investigates the roots of the language and the formations of its words." (*History of Indian Literature*, p. 216). According to Goldstücker : "Pāṇini's

work is indeed a kind of natural history of the Sanskrit language. His grammar "is the centre of a vast and important branch of the ancient literature. No work has struck deeper roots than his in the soil of the scientific development of India." Pāṇini's rules (*sūtras*) have been framed with the utmost conciseness and this dignified brevity is the result of very ingenious methods. His terminology adequately explaining all the phenomena of the language, demonstrates his great originality.

Coming at the end of a long evolution of grammatical studies the *Ashṭādhyāyī* achieved finally its position as the only adequate and comprehensive Sanskrit grammar. Regarded as the highest authority and also as infallible, Pāṇini superseded all his predecessors whose works have consequently been lost in oblivion. Of the older linguists, Yāska alone survives, and that because his work lay in the different field of Vedic exegesis.

Pāṇini undertook a profound investigation of the spoken and the living language of his day. He applied the inductive method in discovering and creating his own material for purposes of evolving his grammatical system. As a trustworthy and competent witness of linguistic facts, he cast his net so wide that almost every kind of word in the language was brought in :

शब्दास्सुबहवः संकलितास्तानुपादाय पाणिनिना स्मृतिरुपनिबद्धा,
(*Kāśikā*, IV. I. 114).

This is shown, for example, by his rules applied to the accent, or the lengthening of the vowels in cases of calling from a distance (*dūrād-dhūte*), salutation (*pratyabhivāde*), and in the case of questions and answers (*pari-praśna*) ; or more specially, in his survey of place-names, and names of *charaṇas*, *gotras*, and *janapadas*, for purposes of derivative formations which must have served an intensely practical need.

The characteristic feature of Pāṇini's system is that it derives words from verbal roots. He has given us compre-

hensive lists of suffixes and roots. In this way his grammar is a contribution not merely to Sanskrit, but to linguistics in general, throwing light on the structure of the cognate Indo-European languages. Pāṇini, unlike Śākaṭāyana, did not carry to extremes the theory of treating all nouns as verbal derivatives, but also recognised the formation of fortuitous words (*yadṛichchhā śabda, nipātana-śabda*) in the languages for which no certain derivation could be vouchsafed. Pāṇini's work is distinguished by the balanced judgment which it demonstrates in relation to contentious or extreme views.

His work is also unique in one respect, *viz.*, that like Yāska's *Nirukta* it is one of the rare masterpieces of old Sanskrit literature which is the work of an individual author, and not of a school. As Colebrooke has put it, the *Ashṭādhyāyī* "certainly bears internal evidence of its having been accomplished by a single effort' (*Miscellaneous Essays*, 1873, Vol. II, p. 5). According to Burnell: "Pāṇini's grammar has, in all probability, been little tampered with; we have better warrant for its integrity than in the case of any other work" (*On the Aindra School of Sanskrit Grammarians*, p. 31). For purposes of cultural and historical material the references in the *Ashṭādhyāyī* have the same value as epigraphic or numismatic records. Its credit is also very much enhanced by its admitted antiquity.

On the whole one may say that Pāṇini's grammar is related to Sanskrit like the tap-root of a tree, the source of its sap and vitality regulating its growth. For Indo-European philology, Pāṇini's work has proved of inestimable value. For Indian history and culture, the *Ashṭādhyāyī* is a mine of trustworthy information throwing light on numerous institutions, as the present study is directed to show.

The genius of Pāṇini appeared at a critical point in the history of Sanskrit to solve the crisis confronting it. The days of Vedic Sanskrit had come to an end by the

time of Yāska, and fresh forms were coming into use. A new regulating and authoritative grammar was needed for bridging the gulf between the Vedic language and the rising popular speech or the classical Sanskrit which had come to stay. It was Pāṇini's mastermind that saved the situation by devising a system which treated of the Vedic language on the one hand and the classical Sanskrit on the other with requisite synthesis and proper shifting of emphasis. Pāṇini's concentrated contemplation and penance accomplished a supreme task under the grace of God, to which tradition so amply testifies.

EPITHETS—Pāṇini's *magnum opus*, the *Ashṭādhyāyī*, is a code of Sanskrit grammar consisting of about 4,000 or to be more precise 3,995 rules. Pāṇini wrote in the *sūtra* style with admirable regard for economy of words. Although Kātyāyana after him also composed the *vārttikas* in the *sūtra* form, Pāṇini alone is understood by the term *sūtrakāra* (*Pāṇineḥ sūtrakārasya*, *Bhāshya*, II. 2. 11; I. 414). In a *kṛidanta* rule (III. 2. 23) he teaches the formation amongst other words of *sūtrakāra* and *śabdakāra*. Patañjali speaks of Pāṇini adopting the *sūtra* style as the medium of teaching grammar (*pramāṇabhūta āchāryaḥ sūtraṁ praṇayati sma*, I. 1. 1; I. 39; also *vyākaraṇaṁ sūtrayati*, III. 1. 26; II 34). Previous writers were perhaps inclined to treat Vyākaraṇa as composed of rules as well as individual words (*lakshya-lakshaṇa*). But Patañjali tells us that Pāṇini's contribution consisted in framing *sūtras* to embody the linguistic phenomena and to build up a system, rather than pursue the arduous and lenghthy process of taking each word separately (*nahi Pāṇininā śabdāḥ proktāḥ, kiṁ tarhi, sūtraṁ*, I. 12). The title *śabdakāra* also may be applied to Pāṇini, since grammar concerned as it was with words is referred to as *śabda* in the *Ashṭādhyāyī* itself (I. 1. 68 and VIII. 3. 86, *śabda-saṁjñā*). Elsewhere Pāṇini derives *śābdika* as applied to a grammarian on account of his authorship of *śabda* or grammar (IV. 4. 34, *śabdaṁ karoti śābdikaḥ*). Since Pāṇini was the promulgator of a complete system of grammar, *Vyākaraṇa*, the

title *vaiyākaraṇa* also applies to him, and he himself uses this term for a grammarian in one of his *sūtras* (VI. 3. 7).

KĀTYĀYANA'S ESTIMATE—Kātyāyana has been Pāṇini's ablest scientific critic, but also a follower. His own genius was of a high order. He subjected Pāṇini's work to a searching examination, modifying and supplementing the *sūtras* where there was need for it in the process of time, initiating discussions on contentious grammatical theories, at times developed in as many as fifty-nine *vārttikas* (cf. *sūtra* I. 2. 64), and in other cases justifying and defending Pāṇini against his critics. He has written in a critical and scientific spirit, and not as a detractor of Pāṇini. The number of his *vārttikas* is nearly 4,263, showing that he laboured hard to bring out the depth and value of the Pāṇinian system.

There is unfortunately a tradition current in India, reinforced by legends that Kātyāyana was a biased critic of Pāṇini. The opinion is reiterated even by an eminent writer like Śabarasvāmin (*sadvāditvāch-cha Pāṇineḥ vachanaṁ pramāṇam, asadvāditvān-na Kātyāyanasya, Mīmāṁsā-Bhāshya*, X. 8. 1). Prof. Kielhorn who set forth the true position of Kātyāyana in relation to Pāṇini, has shown that it would be a scientific mistake to stigmatize Kātyāyana as an unfair antagonist of Pāṇini, since the object which Kātyāyana and Patañjali have in view throughout their works is one and the same, the nature of their remarks being identical, but only differing in form (Kielhorn, *Kātyāyana and Patañjali* p. 53). The *Ashṭādhyāyī* instead of being weakened by Kātyāyana shines in his hands with added glory. Kātyāyana gives expression to his admiration for Pāṇini by concluding the *vārttika-sūtras*, in the following devout strain:

भगवतः पाणिनेः सिद्धम् ।

PATAÑJALI'S TRIBUTE—Patañjali, the author of the *Mahābhāshya*, has applied his mastermind to reveal the depth and range of Pāṇini's scholarship. Like Kātyāyana,

Patañjali applies the term *Bhagavān* exclusively to Pāṇini in recognition of his supreme position in the field of study he had made his own. Only once the epithet refers also to Kātyāyana (III. 2. 3; II. 97) (Kielhorn, *J.R.A.S.*, 1908. p. 503).

Patañjali next applies to Pāṇini the significant epithet *Māṅgalika Āchārya* (I.1.1; I.3.1. I.253), a great teacher who commenced his treatise with a benedictory expression ensuring its continuity and development through the ages. There can be no doubt about Pāṇini's phenomenal success in the annals of human authorship, his work being greeted with universal approval: पाणिनीयं महत् सुविहितम् (*Bhāshya* IV. 2.66; II.285). 'Superbly accomplished is the grand treatise of Pāṇini.' His grammar was acknowledged as of superior authority over the works of his predecessors (सूत्रकारश्च शब्दविदां मूर्धाभिषिक्तः, *Padamañjarī* on IV.1.93); and soon it spread from the elementary to the highest stages of studies. Patañjali testifies to the popularity of Pāṇini's work by saying that it was on the lips of young pupils (*Akumāraṁ yaśaḥ Pāṇineḥ*, I.4.89; I.347). The *Kāśikā* goes further and says on the basis of an old stock-example that the name of Pāṇini was acclaimed as authority all over the country : पाणिनिशब्दः लोके प्रकाशते, इतिपाणिनि, II. 1.6.).

Another epithet applied by Patañjali to Pāṇini is that he is a *Pramāṇabhūta Āchārya* (I. 1.39; I.39), a teacher of the highest authority. He says that Pāṇini approached his task with a full sense of responsibility : 'Wearing a ring of *kuśa* grass in hand, the *Achārya* seated himself facing the sun and took infinite pains in composing each *sūtra*. Not one syllable is purposeless there, much less could a whole *sūtra* be' (I. 1.1 ; I. 39). This authoritative conception later on became the pivot of the maxim (*paribhāshā*) that the saving of half a *mātra* is regarded by the grammarians to be as gladdening as the birth of a son (*Paribhāshendu-śekhara*, No. 122). Pāṇini adopted the *sūtra* style of composition based on utmost brevity, but not losing clarity. He was the founder of a new system planned with its

logical method and scientific technique to solve the intricacies of grammar and reduce them to simplicity and precision as far as possible. He remains eminently understandable in spite of the rigour and conciseness of his work.

Patañjali also refers to the capacious intellect of Pāṇini by calling him an *Analpamati Āchārya* (I.4.51 ; I.335). It was by his comprehensive genius that Pāṇini was able to handle an almost unlimited range of linguistic material, subject it to masterly analysis, and reduce it to an order and system. His vigorous understanding and method have for ages disciplined and invigorated the minds of generations of Sanskrit scholars.

Pantañjali also mentions the technical ability of Pāṇini by calling him a specialist in the forms of words and their meanings (*Vrittajña Āchārya*, I. 3. 9 ; I. 226). Pāṇini was possessed of a phenomenal insight (*mahatī sūkshmekshikā*, *Kāśikā*, IV. 2.74) into the true meaning (*vṛitti*) of words in all their aspects and bearings as they were obtaining in the usage of the different localities, Vedic schools (*śākhās* and *charaṇas*), families (*gotras*), trades, professions and social classes of his times. We learn from Yuan Chwang that 'Ṛishi Pāṇini was from his birth extensively informed about men and things.' (*Siyuki*, I. 115). Pāṇini for the most part discovered and created his own material. He has applied his scientific method to the arrangement of this material by bringing the numerous *vrittis* or derivative meanings of words under well-classified *gaṇas* or word-groups. It was a method, which, as pointed out by Whitney and Burnell, was unknown before him (Whitney, *Atharva Prāt.* p. 48 ; Burnell, *On the Aindra School of Sanskrit Grammarians*, p. 28). In fact, Pāṇini's name has gone down to posterity as the inventor of the device of the *Gaṇa-pāṭha*, which has done so much in the conservation of Sanskrit language and of its archaic and obsolete forms.

Lastly, Patañjali applies the significant epithet *Suhṛit* (I. 2-32 ; I. 208) to Pāṇini in reference to the simplicity of

his style which makes an erudite work so easy of comprehension by its lucidity and logic.

By his inner qualities of head and heart Paṇini was able to appreciate the views of others in a spirit of detachment and with balanced judgment. He avoided extreme views and preferred the path of synthesis between conflicting theories. For example, it is well-known that the question whether a word denotes a whole class (*ākṛiti*) or only an individual (*vyakti*) was being debated amongst the grammarians at an early stage. Later on this became the subject of a sharp controversy between Vājapyāyana and Vyāḍi (*Bhāshya*, I. 2. 64 ; I. 242, 244), but Pāṇini seeing truth in either accepted both positions as explained by Patañjali.

It may also be noted that Kātyāyana's epithet to Pāṇini has been also repeated at the end of Patañjali's work in the same spirit of homage: भगवतः पाणिनेराचार्यस्य सिद्धम्। VIII. 4. 68; III. 467).

Name. The author of the *Ashtādhyāyī* is universally known as Pāṇini. Kātyāyana and Patañjali use this name. According to Baudhāyana, Pāṇini is a *gotra* name included amongst the Vatsa-Bhṛigus, having five *Pravaras*, *viz.* Bhārgava, Chyāvana, Apnavāna, Aurva and Jāmadagnya (*Pravarakāṇḍa*, 3). Pāṇini's own *sūtra* mentioning Pāṇin (VI. 4.165) suggests Pāṇini to be a *gotra* name. According to Kaiyaṭa's derivation a son of Paṇin was Pāṇina, and a *yuvan* descendant of his would be called Pāṇini (*Pradīpa* on I. 1. 73. 6).

The *Trikāṇḍaśesha* and *Keśava*, both later lexicons, mention Āhika, Śālaṅki, Dākshīputra and Śālāturīya as the appellations of Pāṇini. We have no means to verify the correctness of the first two names. According to Weber the name Śālaṅki, which occurs in the *Bhāshya*, though it does not clearly appear that Pāṇini is meant by it, leads us to the Vāhīkas (*History of Sanskrit Literature*, p. 218). It would at least accord with the fact that Pāṇini was an

Udīchya. The last two are well-known names of Pāṇini. Patañjali quotes a *kārikā* describing Pāṇini as Dākshīputra (*Dākshīputrasya Pāṇineḥ*, 1.75) after the name of his mother who was of the Daksha *gotra*. Dāksheya also would be Pāṇini's metronymic.

THE DAKSHAS, A NORTHERN PEOPLE—The Dakshas are referred to as a clan organised into *saṁgha* as is apparent from the following examples in the *Kāśika*: *Dākshaḥ saṁgaḥ, Dākshaḥ aṅkaḥ, Dāksham lakshaṇam* (IV. 3. 127). It also refers to a settlement of the Dakshas (*Dāksho ghoshaḥ*, IV. 3. 127), and as examples of the names of their villages are cited *Dākshi-kūla* and *Dākshi-karsha* (VI. 2. 129), seemingly old illustrations, since Patañjali likewise mentions *Dākshikarshū* as the name of a village of which a resident was called Dākshikarshuka (IV. 2. 104; II. 294). That the Dakshas belonged to the north-west is suggested by the *Kāśikā's* discussion on *Saṁjñāyāṁ kanthośīnareshu* (II. 4. 20), citing a counter-example to show that the place named Dākshi-kanthā lay outside the geographical limits of Uśīnara. According to Pāṇini Uśīnara formed part of Vāhīka (IV. 2. 117, 118). That the Dakshas did not belong to the eastern part of India either is shown by another comment (*Kāśikā* on IV. 2. 113), where it is said that the Dakshas lived outside the Prāchya-Bharata region, i e., towards the west. Pātañjali's interpretation of Prāchya-Bharata on Pāṇini II. 4. 66 shows that the Prāchya country or eastern India began from the region of Bharata or Kuru-*janapada* (I. 493). Strictly speaking the Bharatas although residing in east Panjab were considered to form part of the Prāchyas. Thus proceeding from east to west we encounter the chain of the Prāchyas, Bharatas (region of Kurukshetra), Uśīnaras, Madras and Udīchyas. The *Gopatha Brāhmaṇa* mentions the Udīchyas with the Madras (*Gopatha*, I. 2. 10), and the two jointly formed Vāhīka. The Dakshas, as shown by the *Kāśikā*, lived outside/the Prāchya country, outside the Bharata-*janapada* and outside the Uśīnara land which was in Vāhīka, and have therefore to be located towards further

west, somewhere in Gandhāra. This lends support to the tradition that Pāṇini of the Daksha *gotra* was born at Śalātura, which lay a few miles to the north of the confluence of the Kabul with the Indus river. The area once occupied by the Dākshis may probably have been somewhere in the lower valley of the Kabul river, between Dakka and the present site of Śalātura.

SALATURA, THE BIRTH-PLACE OF PĀṆINI—The term Śālāturīya applied to Pāṇini preserves the tradition of his original home being at Śalātura. The antiquity of the place is carried back to the time of Pāṇini himself, who mentions Śalātura in a *sūtra* (IV. 3. 94) for the sake of the formation *Śālāturīya* to denote a person whose ancestors were natives of that place (*abhijana*), Thus the town existed even before Pāṇini, and the place of his ancestors may be taken as the place of his own birth. Vardhamāna refers to Pāṇini as Śālāturīya (*Gaṇaratnamahodadhi*, commentary on verse 2), and Bhāmaha and a Valabhī inscription also use this synonym for the grammarian (*Śālāturīya-matam*, Bhāmaha ; *Śālāturīya-tantra*, Ins. of Sīlāditya VII of Valabhī, Fleet, *Corpus Inscript. Indi.* III, p. 175).

Yuan Chwang visited Śalātura in the seventh century A. D. and found that the tradition about Pāṇini was current there. He writes, "To the north-west of U-to-kia-han-c'ho 20 li or so we come to the town of P'o-ls-tu-lo. This is the place where the Ṛishi Pāṇini, who composed the *Ching-ming-lun* (चिङ् मिङ् लुन् = शब्दविद्या) was born.' (Beal, *Siyuki*, I. p. 114; also footnote equating the symbol *p'o* for *so'*).

Śalātura has been identified by Cunningham with Lahur,[1] a small town four miles north-west of Ohind, in

1 A Kharoshṭhī inscription now preserved in the Lahore Museum and dated in the Kushāṇa year 40 (118 A. D.) was found at Shakardarra near Campbellpore. It mentions the boat-ferry of Śala (*Śalanokrama*, Sten) Konow, *Kharoshthi Ins.* p. 169), which plied from the eastern bank of the Indus and derived its name from the town of Śalātura situated on the oppo-

the angle of the river Kabul meeting the Indus (*Ancient Geog.* pp. 65-7; *A.S.R.*, II, 95). It can be approached from Jahangira station of the N. W. Ry. on the right bank of the Attock bridge from where it is about 12 miles. Buses plying between Mardan and Ohind pass by Lahur.

For about five hundred years Salātura continued as a centre of Pāṇinian studies. According to Yuan Chwang, "The children of this town, who are his (Pāṇini's) disciples revere his eminent qualities, and a statue erected to his memory still exists." (*Siyuki*, I. 116).

TRADITION ABOUT PANINI'S LIFE—The Indian tradition about Pāṇini is embodied in the *Kathāsaritsāgara* of Somadeva (11th century) and the *Bṛihatkathāmañjarī* of Kshemendra (11th century) both of which which were based on the original *Bṛihatkathā* of Guṇāḍhya. According to this, Pāṇini was a pupil of the teacher Varsha. He was not much known for his intelligence (*manda-buddhi*) and lagged behind in studies. Withdrawing for a time to the Himalayan seclusion he performed meditation and pleased Śiva who revealed to him a new system of grammar (*nava-vyākaraṇa*). His rival was Kātyāyana whom he finally overcame by his superior powers. Pāṇini's grammar eventually replaced the older Aindra system. He also became a friend of the Nanda emperor. This tradition is supported in detail by Yuan Chwang as shown below.

MAÑJUŚRĪ-MŪLAKALPA—This work (c. 800 A. D.) refers to king Nanda, his learned council of Brahmin philosophers and to his intimacy with Pāṇini : "After him (Śūrasena) there will be king Nanda at Pushpa City. In

site side at some distance from the river. The name Shakardarra may be derived from Śakradvāra meaning the 'entrance from the east.'

There are several high mounds at Lahur, at one of which recent excavations by Madame Corbeau exposed some stucco Buddhist heads and Gandhāra terracottas. Yuan Chwang speaks of a statue of Ṛishi Pāṇini being in worship at Lahur. R. B. K. N. Dikshit first informed me that a life-size image in Gandhāra style, was previously found at a Lahur mound. It is only a Buddha image in Gandhāra style, now preserved in the Peshawar Museum, where I saw it in 1946.

the capital of the Magadha residents there will be Brahman controversialists (*Brāhmaṇastārkikā bhuvi*, verse 425)...... and the king will be surrounded by them. The king will give them riches. His minister was a Buddhist Brahmin Vararuchi who was of high soul, kind and good. His great friend was a Brahmin, Pāṇini by name." (Jayaswal, *Imperial History of India*, p. 14).

RĀJAŚEKHARA—Rājaśekhara (c. 900 A.D.) gives further point to this tradition by saying that in the city of Pāṭaliputra there was an old institution called *Śāstrakāra-parīkshā*, the Board to examine authors of scientific systems. Before this Board appeared such great masters of grammar as Upavarsha, Varsha, Pāṇini, Piṅgala, Vyāḍi, Vararuchi and Patañjali. Examined (*parīkshitāḥ*) by this Board they attained fame.[1] These names embody literary history over a long period.

Upavarsha was a commentator on the Mīmāṁsā and Vedānta *sūtras* (Jocobi, *J.A.O.S.*, 1912, p. 15 ; cf. *Śaṅkara-Bhāshya*, III. 3. 53). His views about *śabda* are preserved to us in a citation by Śaṅkarāchārya who refers to him as *Bhagavān* Upavarsha (I. 3. 28). Varsha, his brother is said to have been Pāṇini's teacher. Pāṇini as a Śāstrakāra and author of a new grammatical system would have submitted his work to this learned assembly of Pāṭaliputra. Piṅgala, the author of the *Chhandovichiti*, a name at present included in the *Gaṇa-pātha* of IV. 3. 73, is spoken of as Pāṇini's younger brother (*anuja*) by Shaḍguruśishya in the *Vedārtha-dīpikā* commentary. Vyāḍi the author of the *Saṅgraha-sūtra*, a known work on Grammar and highly spoken of in the *Bhāshya* (cf. Patañjali on the meaning of *Siddha* decided in the *Saṅgraha*, I. 6 ; also *Śobhanā khalu Dākshāyaṇasya Saṅgrahasya kṛitiḥ*, I. 468) was a junior contemporary of Pāṇini. Vyāḍi wrote his *Saṅgraha* in the *sūtra*

[1] श्रूयते च पाटलिपुत्रे शास्त्रकार परीक्षा—
अत्रोपवर्षवर्षाविह पाणिनिपिङ्गलाविह व्याडिः ।
वररुचि पतंजली इह परीक्षिताः ख्यातिमुपजग्मुः ॥ *Kāvyamīmāṁsā.*

style as is evident from Patañjali's reference to students called *Saṅgrahasūtrikas* (those who studied the *Saṅgraha-sūtras*, IV. 2. 60 ; II. 284). Kātyāyana and Patañjali are well-known grammarians. Thus the order in which these names are mentioned may be taken to be that of chronology. Patañjali who is a known contemporary of Pushyamitra Śuṅga of the second century B. C. is the last of this exalted race of grammarians.

ACCOUNT OF YUAN CHWANG—The sources of information about Pāṇini's life are rather meagre and they should be supplemented by other sources that are available. Yuan Chwang is such a source and his account needs careful study. Most of the traditions recorded above are repeated by Yuan Chwang. The Chinese traveller visited Śalātura in person and the information collected by him on the spot may be regarded as trustworthy, specially on points where Somadeva, Rājaśekhara, *Mañjuśrīmūlakalpa* and the Chinese traveller are in accord.

Having stated that Ṛishi Pāṇini who composed the *Śabdavidyā* was born at Śalātura, Yuan Chwang proceeds to say :

'Referring to the most ancient times, letters were very numerous ; but when, in the process of ages, the world was destroyed and remained as a void, the Devas of long life descended spiritually to guide the people. Such was the origin of the ancient letters and composition. From this time and after it the source (*of language*) spread and passed its (*former*) bounds. Brahma Deva and Śakra (*Devendra*) established rules (*forms* or *examples*) according to the requirements. Ṛishis belonging to different schools each drew up forms of letters. Men in their successive generations put into use what had been delivered to them; but nevertheless students without ability (*religious ability*) were unable to make use (*of these characters*). And now men's lives were reduced to the length of a hundred years, when the Ṛishi Pāṇini was born; he was from birth extensively informed about things (*men and things*). The times being

dull and careless, he wished to reform the vague and false rules (*of writing and speaking*)—to fix the rules and correct improprieties. As he wandered about asking for right ways, he encountered Īśvara Deva and recounted to him the plan of his undertaking. Īśvara Deva said, "Wonderful! I will assist you in this." The Ṛishi, having received instruction, retired. He then laboured incessantly and put forth all his power of mind. He collected a multitude of words, and made a book on letters which contained a thousand *ślokas*: each *śloka* was of thirty-two syllables. It contained everything known from the first till then, without exception, respecting letters and words. He then closed it and sent it to the king (*supreme ruler*), who exceedingly prized it, and issued an edict that throughout the kingdom it should be used and taught to others: and he added that whoever should learn it from beginning to end should receive as his reward a thousand pieces of gold. And so from that time masters have received it and handed it down in its completeness for the good of the world. Hence the Brāhmaṇas of this town are well grounded in their literary work, and are of high renown for their talents, well informed as to things (*men and things*), and of a vigorous understanding (*memory*).' (*Siyuki*, pp. 114-15).

The Pāṇinian tradition was still current even after the lapse of about eight centuries after Patañjali. Yuan Chwang faithfully repeats the much older tradition contained in the *Mahābhāshya* with regard to the spread of Vedic learning in all its offshoots and branches, the origin of grammar, the growth of the Aindra system, chaos produced by different grammatical schools, and finally the emergence at this crisis of Pāṇini with his new grammar, his eminent qualities and method.

(1) *ORIGIN OF ANCIENT LETTERS*—Yuan Chwang's account of the primeval beginning of knowledge is in the nature of introductory remarks. This accords with the tradition almost universal in India regarding the divine origin of different *śāstras* and the divine guidance received

in the propagation of knowledge. Patañjali also transposes the scene to the divine world when he refers to the period of a thousand years of gods (*divya-varsha-sahasra*) during which time Bṛihaspati expounded the subject of letters (*śabda-pārāyaṇaṁ provācha*) to his divine pupil Indra (*Bhāshya*, I. 5.).

(2) *GROTH OF LITERATURE*—'From this time......the source (*of language*) spread and passed its former (*bounds*).' This is supported by Patañjali's account of the vast expansion of language after the first impulse to it was received from divine revelation, He writes :[1] 'Here is the wide world comprising seven divisions ; its rich literature including the four *Vedas* with their *Aṅgas* and mystic portions, their ramifications into 101 *śākhās* of *Yajurveda*, 1000 of *Sāmaveda*, 21 *of Ṛigveda*, 9 *of Atharvaveda*, the Dialogue portions, *Itihāsa*, *Purāṇa* and *Vaidyaka* treatises constitutes the expansive source of language.' It is true that even before the time of Pāṇini Sanskrit literature had reached a stage of considerable development, as we shall see in examining the literary evidence.

(3) *AINDRA SYSTEM*—The tradition of an Aindra grammar prior to Pāṇini is strong in Sanskrit literature. It is found in the *Taittirīya Saṁhitā* where it is said that the gods aproached Indra to elucidate speech (*vāchaṁ vyākuru*). Patañjali speaks of Bṛihaspati expounding to Indra the words by means of individual forms or examples (*pratipadokta śabda*, I. 5 ; almost literally rendered by Yuan Chwang). The tradition in the *Ṛiktantra*, a *Prātiśākhya* work of the *Sāmaveda*, is more to the point : Brahmā taught Bṛihaspati ; Bṛihaspati taught Indra ; Indra taught Bhāradvāja ; and from him the system devolved on the Ṛishis.' (*Ṛiktantra*, Dr. Suryakant's edition, Lahore, p. 3).

[1] सप्तद्वीपा वसुमती त्रयो लोकाश्चत्वारो वेदाः सांगाः सरहस्या बहुधा विभिन्ना एकशतमध्वर्युशाखाः सहस्रवर्त्मा सामवेद एकविंशतिधा बाह्वृच्यं नवधाथर्वणो वेदो वाकोवाक्यमितिहासः पुराणं वैद्यकमित्येतावाञ्छब्दस्य प्रयोगविषयः ।
(*Bhāshya*, 1.9)

Here also Brahmā as Prajāpati is the ultimate source of knowledge. Indra represents the divine agency. The school of Bṛihaspati was continued through his descendant Bhāradvāja who initiated other teachers in the system. There certainly existed a Bhāradvāja school of grammar, Pāṇini himself citing the opinion of Bhāradvāja (VII. 2. 63). Patañjali frequently quotes the *vārttikas* of the Bhāradvājīyas (*i.e.* followers of the Bhāradvāja system, as Pāṇinīyas were of Pāṇini) as giving a version variant from that of Kātyāyana (III. 1. 38 ; II. 46 ; III. 1. 89 ; II. 70, etc.). The *Ṛik Prātiśākhya*, which is generally regarded as prior to Pāṇini, also refers to the opinion of Bhāradvāja who seems to have been an adherent of the earlier Aindra system. The legendary accounts of the *Kathāsaritsāgara* and the *Bṛihatkathāmañjarī* also mention that it was the Aindra school which was supplanted by Pāṇini's work. Thus we find strong support for Yuan Chwang's allusion to the establishment of rules by Indra. The existence of the Aindra system has been dealt with in detail by Burnell (*On the Aindra System of Sanskrit Grammarians*).

(4) *DIFFERENT SCHOOLS BEFORE PĀṆINI*—'Ṛishis belonging to different schools each drew up forms of letters.' This refers to the intense literary activity about words and language preceding Pāṇini in which hundreds of great teachers including such names as Śākaṭāyana, Gārgya, Yāska, Śaunaka, Śākalya, Bhāradvāja, Āpiśali, Audavraji, participated. Burnell's list of teachers from the *Nirukta*, Pāṇini and the *Taittirīya-Prātiśākhya* (*Aindra School*, pp. 32-33) considered together with the list of numerous phonetic treatises and the terminological literature (cf. Dr. Sūryakānt Sāstri, Intro. to *Laghu-Ṛiktantra*) furnishes evidence of the strong intellectual activity which preceded and followed the genesis of the Pāṇinīya *śāstra*. (See also for a list of 64 Teachers quoted in the *Prātiśākhyas*, *Nirukta* and Pāṇini, Max Muller's *History of Sanskrit Literature*, pp. 142-43).

(5) *COMPARATIVE DECAY OF GRAMMATICAL STUDIES*—'Men in their successive generations put into

use what had been delivered to them. And now men's lives were reduced to the length of a hundred years...... The times being dull and careless.' Patañjali also refers to *purā-kalpa* (by-gone ages) when keen Brahmanical pupils devoted themselves first to master *Vyākaraṇa*, and then took up the study of the Veda. But in a subsequent epoch students devoted less attention to grammar; they even considered it useless (*anarthakaṁ vyākaraṇam*). It was to reform such dull and careless students that Pāṇini wrote (*vipratipanna-buddhibhyo' dhyetṛibhya āchārya idaṁ śāstram anvāchashṭe*, Pat. I. 5.). As to the lessening of mens' lives to a hundred years, Yuan Chwang is almost literally rendering Patañjali's remarks.

> *Kim punaradyatve yaḥ sarvathā chiraṁ jīvati sa varsha-śataṁ jīvati* (I. 5.).

'What to speak of the present times when the maximum span of human life is reduced to only one hundred years!' Pāṇini's object 'to fix the rules and correct improprieties' is supported by Kātyāyana referring to the *Ashṭādhyāyī* as *sādhvanuśāsana śāstra*, 'the book of correct instruction' (*vārttika*, I. 1. 44. 14; 1. 104). Possibly it contains an allusion to Pāṇini's ministering to the normal speech current in his time.

(6) *PĀṆINI'S METHOD*—'Pāṇini was from his birth extensively informed about men and things. He wandered about asking for knowledge. He collected a multitude of words.' This information is valuable as it acquaints us with the fact that Pāṇini for the most part discovered and created his own material, making minute observations of facts in the course of his travels on a linguistic mission. We find in Pāṇini organism and life, an elastic and warm-hearted approach to the speech of the common people bringing in a vast and varied material about their life. A closer study of the *Ashṭādhyāyī* as attempted in the following pages reveals how Pāṇini had explored and exploited all possible sources of linguistic material in the

2

country including dialects, folk-lore and local customs, e.g. names of Yakshas like Viśāla used as personal names (V. 3.84); *pīlu-kuṇa*, a name for ripe berries of the Pīlu tree (V. 2. 24); eastern sports, and names of coins, weights and measures, etc. His recording of the differences in the accentuation of names of wells situated on the right and left bank of the river Beas is a true pointer to his pain-staking method, on which the author of the *Kāśikā* observes: 'the *Sūtrakāra* was endowed with deep and subtle insight.'

महती सूक्ष्मेक्षिका वर्तते सूत्रकारस्य । (IV.2.74).

Pāṇini's travels in search of facts from the living language and the method of personal discussion and interrogation to elicit information were in the manner of the true Takshaśilā style, which was marked by a practical bias in the pursuit of academic studies. We have a graphic account in Buddhist literature describing how the royal physician Jīvaka was directed by his teacher to examine the plants in the region of Takshaśilā as sources of medicine (*Mahāvagga*, VIII. 1. 6ff). Born at Śalātura, as he was, Pāṇini must have been brought up in the academic tradition of Takshaśilā which was a far-famed centre of learning in that period. In one of the Jātakas we are told how students after completing their studies at Takshaśilā, wandered far and wide, acquiring all practical uses of arts, and understanding the various country observances (*Takkasilaṁ gantvā uggahita-sippā tato nikkhamitvā sabba-samaya-sippañ cha desachārittañ cha jānissāmāti anupubbena chārikaṁ charantā, Jāt.* V. 247).

(7) *PANINI AND MAHEŚVARA*—The information that Pāṇini possessed a well-conceived 'plan of his undertaking which was highly approved of by Īśvara Deva is of importance in crediting the grammarian with his full share of independent and original thinking in the execution of the *Ashṭādhyāyī*. The legend of Īśvara Deva indicates the traditional divine help usually associated with all pious undertakings. 'The Ṛishi having received instruction,

retired.' It points to the period of Pāṇini's intellectual labour and single-minded devotion to his work in quiet surroundings (*śuchāv-avakāśe*, *Bhāshya*, I. 39).

(8) *PĀṆINI'S EFFORT*—'He then laboured incessantly and put forth all his power of mind.' It is almost a literal translation of Patañjali's remark about Pāṇini taking great pains in making his *sūtras* : *Pramāṇi-bhūta āchāryaḥ mahatā yatnena sūtraṁ praṇayati sma* (I. 1. 1; I. 39). There can be no doubt about Pāṇini puting forth supreme effort to produce a work of such comprehensive nature and brevity as the *Ashṭādhyāyī*.

(9) *PĀṆINI'S MENTAL POWERS*—Yuan Chwang speaks of Pāṇini's spirit and wisdom, and of his vigorous mind which he devoted to investigate worldly literature (*Siyuki*, I.116). We have already spoken about Patañjali's tribute to Pāṇini as *analpamati āchārga*, explained by Kaiyaṭa as *medhāvī*, 'endowed with great understanding and memory.' We may confidently dismiss the story of Pāṇini being dull at school. Moreover, the information that Pāṇini was extensively informed about men and things from his very birth indicates his inherent practical turn of mind and aptitude for observation amply borne out by the contents of the *Ashṭādhyāyī*.

(10) *EXTENT OF PĀṆINI'S WORK*—'He made a book on letters which containd a thousand *ślokas* ; each *śloka* was of thirty-two syllables.' It indicates the extent of Pāṇini's *Ashṭādhyāyī* consisting of 3,981 *sūtras* plus 14 *pratyāhāra sūtras*, computed by the *śloka* measure of 32 syllables each. Sköld has somewhat misunderstood this. He writes: 'This curious statement can hardly be interpreted in another way than assuming, that the work of Pāṇini, just as so many other Indian works on grammar, was originally written in metrical form.' (*Papers on Pāṇini*, p. 32). This is an untenable inference. As a matter of fact no Indian grammar, Sanskrit or Prakrit, is in metrical form. The *Ashṭādhyāyī* was originally written in *sūtra* style, and its

bulk from the beginning was very nearly 1,000 *ślokas, as it is today*. The statement is akin to the computation of Vyāḍi's *Saṅgraha*, also in *sūtras*, as *laksha-ślokātmaka*. The *Kāśikā* on IV. 2. 65 says that not only Pāṇini's work but those of Kāśakṛitsna and Vyāghrapāda also were in *sūtra* style (*Daśakaṁ Vaiyāghrapadīyam* ; *Trikaṁ Kāśakṛitsnam*). Even up to a late period grammatical works were being written in *sūtra* form.

(11) *PĀṆINI'S WORK, A COMPLETE DIGEST*—'It contained everything known from the first till then, without exception, respecting letters and words.' Pāṇini's work is rightly described by Patañjali as a vast ocean of science (*mahat śāstraugha, Bhāshya*, I. 1. 1, I. 40) ; also vast and well-done (*Pāṇinīyaṁ mahat-suvihitam*, IV. 2. 66 ; II. 285). He also describes how Pāṇini's work was based upon the material available in the different schools of Vedic learning so that it became acceptable to all of them (*Sarva-veda-pārishadaṁ hīdaṁ śāstram, Bhāshya*, II. 1. 58 ; I. 400).

Burnell truly points out that for the *Ashṭādhyāyī* to have gained such a position of authority, 'it must have been vastly superior in the eyes of the Brāhmaṇas to all the numerous treatises which must have been in existence before Pāṇini's time.' (*Aindra School*, p. 38). Pawate has recently raised the question of Pāṇini's borrowings from his predecessors, a point which deserves much further consideration (cf. *Structure of the Ashṭādhyāyī* by I. S. Pawate, Hubli). We find in the *Ṛiktantra*, a *Sāma Prātiśākhya* which Dr. Sūrya Kānt attributes to Audavraji some of Pāṇini's *sūtras* quoted almost *verbatim* (cf. *Ṛiktantra, sūtras* 195-218).

(12) *PĀṆINI AND PĀṬALIPUTRA*—'He then closed it and sent it to the king (*supreme ruler*), who exceedingly prized it.' The *Mañjuśrīmūlakalpa*, Somadeva, and Tārānātha all relate the story of Pāṇini's friendship with one of the Nanda kings. Rājaśekhara records a tradition, already referred to, showing Pāṇini's connection with

Pāṭaliputra. It is likely that Pāṇini visited Pāṭaliputra in person to participate in the *Śāstrakāra-parīkshā* rather than send his book through an emissary. Pāṭaliputra held a pre-eminent position in the literary life of the nation during the Nanda and Maurya periods. Chāṇakya, a resident of the distant North-West like Pāṇini himself, and nurtured in the glorious traditions of the Takshaśilā school, also visited Pāṭaliputra. The *Atthapakāsinī* commentary of the Siṁhalese *Mahāvaṁsa* narrating the early life of Chāṇakya relates how during the course of his intellectual career to establish his reputation he was attracted to visit Pāṭaliputra (*vādaṁ paryesanto Pupphapuraṁ gantvā*).[1]

We may take it that Pāṇini's mission to the celebrated capital of the Magadhan empire was not very different from that of Chāṇakya, *viz.* a desire to have his work valued by the most competent judges gathered at the court of Pāṭaliputra.

THE GREAT SYNOD (*Sabhā*)—It is interesting to note that this academic institution continued even in the time of the Mauryan emperors of Pāṭaliputra, as indicated by Megasthenes and other Greek writers. In the words of Megasthenes the Brāhmanas "are employed publicly by kings at what is called the Great Syuod where at the beginning of the new year, all the philosophers are gathered together, and any philosopher *who may have committed any useful suggestion to writing*, or observed any means of improving the crops and cattle, or for promoting the public interests, declare it publicly." (*Strabo*, XV.1., McCrindle, *Megasthenes*, Frag. XXXIII). Diodorus also refers to these distinguished gatherings at the beginning of each new year in which the learned men participated and the sovereign of the land acted as patron (McCrindle, *Megasthenes*, Frag. I, p. 39). These statements corroborate the Sanskrit and Pāli accounts of the congregation at Pāṭaliputra, and Rājaśekhara's *Śāstrakāra-parīkshā* very nearly corresponds to the functions of the Great Synod described by Megasthenes.

1 I am grateful for this reference to Śrī C. D. Chatterji, M.A. History Department, Lucknow University.

The time of its meeting is recorded as the beginning of each new year. Very probably the technical term for this Synod and the Board responsible for the *Śāstrakāra-parīkshā* was *Sabhā*, as in the expression *Chandragupta-sabhā* and *Pushyamitra-sabhā* used by Patañjali (I.77; see also *var. lect.* at p. 515)[1] and also *Rāja-sabhā* by Pāṇini in *sūtra* II. 4.23 (*sabhā rājāmanushya-pūrvā*).

(23) *RECOGNITION OF LEARNING*—Victors at these synods who distinguished themselves publicly by producing a scientific contribution 'committed to writing' which promoted public interest or was conducive of general welfare, must have deserved to be adequately rewarded. Speaking in general it is said that "in requital of their services they receive valuable gifts and privileges.' (*Diodorus*, Frag. I, p. 38). Megasthenes in continuation of his account of the Great Assembly specifically writes: "He who gives sound advice is exempted from paying any taxes or contributions." (*Meg.* Frag. XXXIII).

We have a suggestive word in Patañjali, *viz.* *sābhā-sannayanaḥ*, the honour derived from literary exposition in a *Sabhā*, (I.1.73; I.169). Pāṇini himself uses the root *nī* in the special sense of *sammānana* (1.3.36), *i.e.* bestowal of honour on successful exposition of a *śāstra* (cf. *Kāśikā* on *sammānana*, I.3.36).

Yuan Chwang speaks of a thousand pieces of gold as the reward received by one who mastered the *Ashṭādhyāyī* from beginning to end. *Sūtra* VI.2.65 (*Saptamī-hāriṇau dharmye' haraṇe*) presupposes a customary payment of this nature called *dharmya* and speaks of its recipient as *hārin*, one who took away the *dharmya* prize (*āchāra-niyataṁ deyaṁ yaḥ svīkaroti*, *Kāśikā*). The rule prescribes acute accent on the first syllable of the word denoting the recipient. One of the stock-illustrations cited by Patañjali actually

1. Chandra cites *Chandragupta-sabhā* only, on his *sūtra* II.2.69, corresponding to Pāṇini, II. 4.23.

makes the *vaiyākaraṇa* or grammarian a recipient (*hārin*), and speaks of an elephant as his customary fee (*Bhāshya*, VI.2.52; III.130; *Kāśikā*, VI.2.65, *vaiyākaraṇa-hastī*). The gift of an elephant as a prize could have originated most likely in the east of India. Kauṭilya also mentions 1,000 silver pieces as the reward of learning (*vidyāvataḥ pūjāvetana*, *Arth.* V. 3; p. 248).

The above detailed analysis shows that the tradition recorded by Yuan Chwang was based upon facts of Pāṇini's life as known at that time.

PĀṆINI AS A POET—There is a tradition that Pāṇini was also a poet. It is suggested by certain verses cited from a poem named *Jambavatījaya* attributed to Pāṇini in anthologies. A verse in the *Sadukti-karṇāmṛita* refers to Dākshīputra as a poet. The available information with regard to Pāṇini as a poet is put together by Pischel (*Z D. M.G.*, XXXIX pp. 95 and ff) who is inclined to accept the theory that Pāṇini was also a poet. Bhandarkar, on the other hand, holds that the style in which the verses ascribed to Pāṇini are written is sufficient to prove that they cannot be by that grammarian (*J.B.B.R.A.S.*, XVI, p. 344). Prof. Kshitis Chandra Chatterji holds the same view and after discussing at length all the known verses assigned to Pāṇini dismisses the theory of his authorship in these words: "The fact that Pāṇini as a poet is nowhere mentioned in the *Mahābhāshya* or in any of the later first-rate works of the Pāṇini school and that annotators and commentators have racked their brains to explain away ungrammatical forms instead of regarding the uses in the *Jāmbavatīvijaya* as *jñāpakas*, that some of the verses attributed to Pāṇini in one anthology are attributed to other poets in others, that some of these verses show distinct traces of borrowings of a much later period, that none of the verses belonging to the *Jāmbavatīvijaya* bear the stamp of the grammarian on them, that some of them contain forms which would make Pāṇini shudder, and that some of them seem to be composed as examples for a work on rhetoric

of a much later period, clearly indicate that the verses cannot have been the work of poet Pāṇini. The *Jāmbavatī-vijaya-kāvya* or the *Pātālavijaya-kāvya* must have been composed by a poetaster of about the ninth century A. D. who made use of many peculiar grammatical forms in it and fathered it on Pāṇini, the great grammarian." (*Cal. Oriental Journal*. Vol. I, pp. 22-23; also p. 135).

We may, however, note that in a *kārikā* of the *Bhāshya*, Pāṇini is referred to as a *kavi* : *tadakīrtitam-ācharitaṁ kavinā* (I.4.50; I.334). But the meaning of *kavi* is not necessarily a poet. The *Kāśikā* equates *kavi* with the *Sūtra-kāra*, and both Kaiyaṭa and Nāgeśa understand *kavi* not as a poet, but as one possessed of high wisdom (*medhāvī*).

THE ASHṬĀDHYĀYĪ—(i) *Its Name*.—The *Ashṭādhyāyī* is differently designated as (1) *Ashṭaka* (*ashṭāv-adhyāyāḥ parimāṇamasya sūtrasya*, V. 1. 58); (2) *Pāṇinīya* (*Pāṇininā proktam*, IV.3.101); (3) *Vṛittisūtra* (*Bhāshya* I.371 differentiating *Vṛittisūtra* from *vārttika*).

In the illustrations to several *sūtras*, the *Kāśikā* speaks of the Pāṇinīya system as an *akālaka grammar* (*Pāṇinyupajñam akālakaṁ vyākaraṇam*, II.4.21, IV.3.115 and VI.2.14). The name is significant as showing that Pāṇini wisely excluded from his purview the discussion of *kāla* or tenses like *Paroksha* (Perfect) and *Vartamāna* (Present), on the exact definition of which subtle and elaborate arguments were often advanced by grammarians (cf. *Bhāshya*, III. 2. 115; II.120, III.2.123; II.123). 'Some say *Paroksha* means the lapse of a century; others say that which is screened from the eye of the speaker is *Paroksha*; still others contend that an interval of two to three days constitutes *Paroksha*' (*Bhāshya*, II.190). Pāṇini took a practical view in the matter, as indeed he did in the case of other extreme views also. In the *Sūtra-kāṇḍa* (I.2.51.57) he says that it is not within the province of the grammarian to lay down rules (*aśishyam*) about particulars of time and tense dura-

tions, since he must depend on the usage of the day (*saṁjñā-pramāṇa*) for such regulations. This position of Pāṇini expressed in the *sūtra* '*Kālopasarjane cha tulyam*' (1.2.57) must have been responsible for the epithet *akālaka* applied to his grammar.

(ii) *TEXT*—The text of the *sūtras* has been handed down to us almost intact by the method of oral transmission by which Sanskrit learning through the ages has descended from generation to generation through a succession of teachers and pupils (*guru-śishya-pāramparya*) instead of being conserved in writing. This method of oral teaching of Pāṇini continued for many centuries and Yuan Chwang noticed it as prevailing in his time also : "And so from that time masters have received it and handed it down in its completeness for the good of the world." (*Siyuki*, I.115).

According to the author of the *Svarasiddhānta-chandrikā* the *Ashṭādhyāyī* consists of 3,995 *sūtras*, *i. e.* 3,981 *sūtras* and the 14 *pratyāhāra-sūtras*.[1] Böhtlingk's critical edition contains 3,983 *sūtras*. Dr. Kielhorn after a detailed enquiry into the text of the *Ashṭādhyāyī* came to the conclusion that "the text given in the *Kāśikā-vṛitti* (and that of the *Ashṭādhyāyī* in the editions) contains 20 more *sūtras* than the original text." (*Ind. Antiquary*, XVI. 184). This increase is accounted for in two ways, *viz.* (1) by applying the principle of *yoga-vibhāga* or splitting into two what Pāṇini originally read as a single *sūtra*, and (2) by introducing some *vārttikas* as full-fledged *sūtras* in the present text of the *Ashṭādhyāyī*[2]. There is also evidence of retouching

1 *Chatuh-sahasrī sūtrāṇāṁ pañcha-sūtra-vivarjitā, Ashṭādhyāyī Pāṇinīyā sūtrair-māheśvaraih saha*.. ...(*Svarasiddhānta-chandrikā*, p. 3, verse 15, Annamalai Un.). 'The Text of the Ashṭādhyāyī' by K. Madhava Krishna Sharma, *J.U.P.H.S.*, July, 1940, pp. 52-65.

2. In one case unnoticed by Keilhorn we have evidence of the fact that even before the time of Patañjali, variant wording of the *sūtra* had come to be discussed ; *cf.* III. 2. 134, *Iha kechid-ākver iti sūtraṁ paṭhanti, kechit prāk-kver iti*, *Bhāshya*, II. 135. There are some additional variants also to be noticed, *e. g. Kāśikā* III. 3.78, IV. 1. 117, VI. 1. 156, VI. 2. 134 ; *Padamañjarī*, IV. 3. 118, IV. 4. 88 ; *Siddhāntakaumudī* V. 2. 64, V. 2. 68.

of some of the *sūtras* by introducing into them some words from the *vārttikas*.

Some also discuss that the original text of the *Ashṭādhyāyī* contained (1) the sign of nasalization marked on indicatory vowels (*Upadeśe'janunāsika it*, I. 3. 2); (2) the sign of *svarita* accent to denote *adhikāra* (*Svaritenādhikāraḥ*, I. 3. 11); (3) accentuation of the text as in the case of Vedic works (*traisvarya pāṭha*); and (4) the *Saṁhitā-pāṭha* or arrangement by which the *sūtras* of each *pāda* are read in continuation and are joined to each other by *Sandhi*. But there is also the view that these features were not a part of the original text of Pāṇini, but only assumed by teachers. We know that in the case of the nasal and *svarita* marks the followers of the Pāṇinīya school now take recourse to oral tradition, to indicate where such marks existed in the *sūtras*. This suggests an oral transmission from the time of Pāṇini's *upadeśa* or first instruction. The *Ashṭādhyāyī* with an accented textual tradition, is not known. Kaiyaṭa is in favour of the hypothesis of *ekaśruti* or unaccented text from the beginning. The theory of *Saṁhitā-pāṭha* which was being discussed even before Patañjali (*cf.* *Śloka vārttika* on I. 4. 56 discussing *rīśvara* and *riśvara*, the latter form being possible only in *Saṁhitā-pāṭha*, *Bhāshya*, I. 340) appears to have been adopted more as a convenient device to get over stray cases of difficulty of interpretation rather than as a textual reality.[1]

(iii) *GAṆA-PĀṬHA*—The *Gaṇa-pāṭha* forms the most important accessory treatise to the *Ashṭādhyāyī*. The *gaṇas* were not known in the Aindra School (Burnell, *Aindra System*. pp. 28-30. They must have been Pāṇini's innovation. Patañjali definitely states that Pāṇini first compiled the *Gaṇa-pāṭha*, and then composed the *sūtras* (*Evam tarhi Achārya-pravṛittirjñāpayati sa pūrvaḥ pāṭho'yam punaḥ pāṭhaḥ* I. 1. 34; 1. 92-93). Yuan Chwang's reference that Pāṇini

1. See also S. P. Chaturvedi, 'On the Original Text of the Ashtadhyayi,' *New Indian Antiquary*, Vol. I. pp. 562-569.

collected a multitude of words and made a book, almost endorses Patañjali's statement regarding the priority of the *Gana pātha* to *Sutra-patha*

The significance of the *Gana pātha* is that it introduces a comprehensive principle of classification by which similar grammatical formations may be grouped together and brought under the operation of a common grammatical rule By this original device a large mass of linguistic data is reduced to order, system and simplicity so as to make for their easy understanding By this method Pānini was also able to take note of comprehensive geographical, social, political and cultural details, names of towns, regions (*janapadas*) rivers, families (*gotras*), schools (*charanis*), republics (*sanghas*), as examples of single short rules Thus Panini's genius was able to utilise what was primarily designed as a grammatical technique to throw light upon the life of the people and serve as a source of sociological and historical studies By its flexibility the way was left open for the incorporation into the *Gana pātha* of new material as it cropped up in course of time so as to render the system always up to date

A critical reconstruction of the *Gana pātha* is an essential part of the Pāninian textual problem The *Kaśika* has preserved lists of words belonging to each *gana* The evidence of the *Chāndra vritti* also, shows that the *Kaśikā* was following a previous tradition Katyāyana and Patañjali were also at pains to conserve the purity of the *Gana. pātha.* In many cases they have critically examined the inclusion of certain words in a particular *gana, e g uluka* and *Kshudraka Malava* in *Khan lıkādi* (IV 2 45), *nrinamana* in *Kshubhnādi* (VIII 4 39), *Śākalya* in *Lohitādi* (IV 1 18), on which there is a long discussion, *takshan* in *Śivādi* (II 262, Kātyāyana has three *vārttikas* to discuss the reading in the group), *Garga Bhārgvikā* in *Gopavanādi* (II 4 67, I 492), and *Atharvan* and *Atharvana* in the *Vasantādi* group (*Bhāshya* II,320, *cf* Patañjali's remark that the words are read four times in the *Ashtādhyāyi*)

Their discussions, helpful in reconstructing a genuine text of the *Gaṇa-pāṭha*, create the impression that the Pāṇinian tradition attached as much authority to *gaṇas* as to *sūtras*. It is, however, difficult at present to ascertain in all cases whether a particular word was originally included in its *gaṇa*. The commentaries on Pāṇini have proceeded on the assumption that the basis of the *Gaṇa-pāṭha* is generally sound. We must agree with Dr. Bhandarkar that most of the words in the *gaṇas* must have been handed down from the time of Pāṇini himself, a good many being cited by Patañjali in his great commentary (*Ind. Ant.*, I.21). For example, the *Yaskādi* group (II.4.63) is analysed by the *Kāśikā*: out of a total of 36 words 16 have been directly traced to 5 different *gaṇas* of Pāṇini, *viz.* the first five words to *Śivādi* (IV. 1. 112); Kudri, Viśri, Ajabasti, Mitrayu to *Grishtyādi* (VI. 1. 136); Pushkarsad to *Bāhvādi* (IV. 1. 96); Kharapa to *Naḍādi* (IV. 1. 99); Bhalandana again to *Śivādi* (IV. 1. 112); and Bhaḍila, Bhaḍita, Bhaṇḍita to *Aśvādi* (IV. 1. 110). Moreover, intrinsic evidence from the *sūtras* in support of *Gaṇa-pāṭha* is sometimes available; *e. g.* the reading of *Pravahaṇa* in IV. 1. 123 is presumed by the *sūtra* VII. 3. 28; or the reading of the *gaṇa* *Sarvādi* is authenticated by several *sūtras* of Pāṇini himself like *Pūrvādi* (VII. 1. 16), *Dvyādi* (V. 3. 2), *Datarādi* (Vol. 1. 25) and *Tyadādi* (VII. 2. 102). The *Lohitādi-Katanta* group was included in the *Gargādi gaṇa* (IV. 1. 105), which like the *Bidādi* (IV: 1. 104) must be considered as one of the best preserved groups.

On the other hand the text of the *gaṇas*, especially of those which were called *ākṛiti gaṇas* (*i. e.* of which the list was left open by Pāṇini himself), did lend themselves to later additions. Patañjali distinguishes two kinds of *gaṇas*, firstly those fixed (*paṭhyante*) by Pāṇini, and secondly those which were only illustrative (*ākṛiti*).[1] The process of inter-

1. Cf. Patañjali on II. 1. 59, *Śreṇyādayaḥ paṭhyante, kritādir-ākriti-gaṇaḥ*, *i. e.* of the two groups in the same *sūtra* one was fixed and the other was only illustrative.

polation must naturally have been more freely operating in the case of groups which were of linguistic importance, as *Ardharchādi* (II. 4. 31), *Gaurādi* (IV. 1. 41), *Tārakādi* (V. 2. 36). On the other hand, *gaṇas* containing lists of proper names were comparatively more stable, as they tended to become obsolete in time. Pāṇini's names of *gotras* could be verified in the light of lists given in the oldest *Śrauta-sūtra* text of Baudhāyana in the *Mahāpravarakāṇḍa*. Groups in which geographical names predominate (e. g. *Dāmanyādi* and *Takshaśilādi*) can to some extent be verified from the mention of those place-names in old independent sources, as the Pāli literature, the *Mahābhārata* and the accounts of the early Greek writers. A large percentage of place-names in the *gaṇas* is undoubtedly archaic, and in many cases not traceable outside the *Ashṭādhyāyī*. For example, the tribe of the *Sāvitrīputrakas* in the *gaṇa Dāmanyādi* (V. 3. 116) must date from Pāṇini himself, as it is unknown in literature except in one passage of the Karṇaparvan (*Mbh.*, 5. 49). At any rate the possibility of fresh accretions to lists of *janapadas* and place names was considerably less after their examination by Patañjali.

In a *vārttika* on the *Kraudyādi gaṇa* (IV. 1. 80) Katyāyana refers to the *Rauḍhyadi* class, which Patañjali informs us was identical with the former (*Bhāshya*, IV. 1.79; II. 233). Since *Rauḍhi* is not included in the Pāṇinīya *Gaṇa-pāṭha*, we may infer that in some other grammar (*vyākaraṇ-āntara*) the *gaṇa* was named after it. We are indebted to Bhartṛihari for the valuable information that the grammar of Āpiśali (a predecessor of Pāṇini) arranged the words of the *gaṇa Sarvādi* (I. 2. 27) in a different order (Kielhorn, Intro. *Bhāshya*, II. 19). The fact, however, remains, that the *Gaṇa-pāṭha* evidence is at best only secondary and should always be taken with caution.

KĀŚIKĀ, ITS VALUE FOR PĀṆINIAN TRADITION- The *Kāśikā* is now the only ancient, exhaustive, concrete and authoritative commentary on the *Ashṭādhyāyī*. According to Haradatta it was written at Vārāṇasī (*Kāśishu bhavā*).

Its importance for interpreting Pāṇini cannot be overrated. Amongst previous commentaries Bhartṛihari refers to *Vṛittikāra* Kuṇi (Kielhorn, *Bhāshya*, Vol. II. Intro. p. 21, footnote) and Kaiyaṭa mentions that Patañjali followod Kuṇi as an authority (*Pradīpa*, I. 1. 75, *Bhāshyakārastu Kuṇi-darśanam aśiśriyat*). A comparative examination of the extent commentaries on Pāṇini, *Tripādī*, *Bhāgavṛitti* in quotations, *Kāśikā*, *Nyāsa*, *Padamañjarī*) shows that each subsequent author was following the pre-existing Pāṇinian tradition.

An intensive study of the *Kāśikā*, reveals its immense indebtedness to the *Mahābhāshya*. In the first verse the author explicitly states his dependence on the *Bhāshya* and also on an earlier commentary which unfortunately is left unnamed (*Vṛittau Bhāshye*). Even the perusal of a few *sūtras* will show how completely the *Kāśikā* relied on Patañjali for its material and the stock of its examples. The numerous illustrations in the *Bhāshya* on IV. 3. 42 are bodily taken by the author of the *Kāśikā*, who did his work intelligently and not as a mere copyist of the older material. In discussing the meaning of Prāchya-Bharata (II. 4. 66) the *Kāśikā* replaces *Auddālakāyana* of Patañjali by *Arjunāyana*, the name of a tribe nearer to its own time. (*cf*. reference to Arjunāyana in the Allahabad Pillar Inscription of Samudragupta).

It may be noted that the *Kāśikā* does not confine itself only to the tradition of Patañjali, Kātyāyana and Pāṇini. It has cited some older traditions showing that it considered a wide range of material. The best illustration of this fact is to be found in the example to *sūtra* I. 4. 86, *anu-Śākaṭāyanaṁ vaiyākaraṇāḥ*, *i.e.* 'all grammarians were lesser than Śākaṭāyana.' *Śākaṭāyana* was a well known predecessor of Pāṇini. The *Kāśikā* here thus cites and conserves an older grammatical tradition, though Pāṇini long ago had eclipsed the fame of Śākaṭāyana. It also proves the tenacity of the tradition embodied in the examples (*udāharaṇa*). There are

also a few other examples drawn from the earlier strata of grammatical tradition.

STOCK-EXAMPLES—Patañjali states that the *sūtras* were related to stock-illustrations called *mūrdhābhishikta udāharaṇa* (I. 1. 57 ; I. 144). According to Kaiyaṭa they were so called because they were accepted in common by all commentaries (*sarva-vrittish-ūdāhritatvāt*). They formed an essential part of the *sūtra* explanation, and were sometimes considered so important as to direct the course of subsequent discussion. The illustration *śastrī-śyāmā* on II. 1. 55 is a case in point, which may be as old as Pāṇini himself, for it was made by Kātyāyana the basis of one of his *vārttikas* (I. 398).

PĀṆINI AS A TEACHER—The title *Vritti-sūtra* applied by Patañjali to Pāṇini's work (I. 371) means that the *sūtras* of Pāṇini were the subject of a *vritti* or commentary, which was the result of his own teaching. Kautsa was a well-known disciple of Pāṇini as mentioned by Patañjali (*upasedivān Kautsaḥ Pāṇinim*, II. 115). The *Kāśikā* adds that he was a resident pupil (*anūshivān*) of Pāṇini and was directly instructed by him (*upaśuśruvān*, III. 2. 108). It may be accepted that Pāṇini's explanations (*Vritti*) formed the model and standard for later commentaries on his *sūtras*.

Patañjali also makes the interesting assumption that Pāṇini himself was responsible for explaining some of his *sūtras* to his pupils in two different ways. As an example may be cited the rule I.4.1, *Akaḍārādekā saṁjñā*. Patañjali enquires why there should be a doubt about the correct wording, and remarks that the Āchārya (Pāṇini) had taught his pupils both the aternative readings of the *sūtra* (*ubhayathā hyāchāryeṇa śishyāḥ sūtraṁ pratipāditāḥ*, I.296). Even Kātyāyana was acquainted with the alternative wording of this rule (*cf. vārttikas* 1 and 9 on I.4.1.), for which he must have depended on a still earlier source, most likely Pāṇini's

own explanation. In *sūtra* V.1.50 (*Taddharati......bhārād-vaṁśādibhyaḥ*), we have an example of the same rule being interpreted by the *Kāśikā* in two different ways, on the authority of an unnamed commentary (*aparā vritti*), which occasioned its remark that both the meanings of the *sūtra* were expounded by Pāṇini himself to his pupils. (*Sūtr-ārthadvayam-api chaitad-āchāryeṇa śishyāḥ pratipāditāḥ*). The same unnamed commentary (*aparā vritti*) further provides an alternative, but equally authoritative, explanation of *sūtra* V.1.94 (*Tadasya Brahmacharyam*), on which the *Kāśikā* repeats the same statement (*ubhayam api pramāṇam ubhayathā sūtra-praṇayanāt*). The case of *sūtra* V.4.21 is similar. These instances show that Pāṇini became the originator of a tradition of *sūtra* explanation which was handed down through an unbroken succession of Pāṇinīya teachers and pupils following that system (*Tadadhīte tadveda*). We have already seen that in respect of the signs of vowels, nasalisation and *svarita* accent on them, the Pāṇinīya grammar relied on an oral tradition which must have originated with Pāṇini himself as a teacher (*Pratijñānu-nāsikyāḥ Pāṇinyāḥ*, and *Pratijñā-svaritāḥ Pāṇinīyāḥ*, *Kāśikā* on I.3.2 and 11). Kaiyaṭa's comment on the *śloka-vārttika*, *tad-analpa-mater-vachanaṁ smarata* (I.4.51; I.335), points to the unbroken continuity of the tradition (*āgamsya avichchhedam*). He also remarks that his own *Pradīpa* commentary on the *Bhāshya* was composed in accordance with the tradition (*yath-āgamaṁ vidhāsye*, Introductory Verses).

NATURE OF THE ORIGINAL VYĀKHYĀNAS—Both Kātyāyana and Patañjali admit the necessity of a commentary (*Vyākhyāna*) to elucidate the words of the *sūtras* (I.11). The earliest commentaries were of a simple nature intended for the practical purpose of teaching. They comprised the following elements: (1) *charchā*, or *pada-vigraha*, spliting up the *sūtra* into its component parts; (2) *udāharaṇa*, examples; (3) *pratyudāharaṇa*, counter-examples; and (4) *vāky-ādhyāhāra*, or *anuvritti*, repeating the words of a previous *sūtra* to aid in the meaning of the

subsequent *sūtra*.[1] The explanation emanating from the *Sūtrakāra* or from those nearest to him in time must have been of this simple character. To them should be assigned illustrations like *anu-Śākaṭāyanaṁ vaiyākaraṇāḥ* (I.4.86), *Śākaṭāyana-putraḥ* (VI. 2. 133), *Nanda-putraḥ* (VI. 2. 133) referring to both king Nanda and his son, and *Nandopakramāṇi mānāni* 'the weights and measuree were first standardised by king Nanda' (II.4.21). The historical value of such early illustrations will be discussed in their proper places.

The antiquity and the genuineness of the Pāṇinian tradition are factors which must weigh with us in assessing the value of whatever commentaries are now left to us. Every commentary should be viewed as a link and a very important link too, in the chain of Pāṇinian interpretation. Dr. Kielhorn examining the question of the earlier authorities quoted in the *Mahabhāshya* made the significant recognition that 'Kātyāyana was acquainted with the works of other scholars who, before him, had tried both to explain and to amened Pāṇini's grammar, and who had subjected the wording of the *Sūtras* to that critical examination, which is so striking a feature of Kātyāyana's own *vārttikas*,' and also that 'between him and Patañjali there intervenes a large number of writers in prose and verse, individual scholars and schools of grammarians, who all have tried to explain and to amend the works of both Pāṇini and Kātyāyana.' (*Ind. Ant.*, XVI. p. 106). The treatises of pre-Kātyāyana *vārttika* writers and pre-Patañjali exponents of *vārttikas* typified by such names as the Bhāradvājīyas, Saunāgas, Kuṇaravāḍava, Kroshṭrīyas, of more faintly symbolised in references like *kechid*, *apara*, have become mere shadows. But those ancient masters passed on the fruits of their labours to Kātyāyana

[1] नहि सूत्रत एव शब्दाः प्रतिपद्यन्ते, किं तर्हि, व्याख्यानतश्च... न केवलानि चर्चापदानि व्याख्यानं वृद्धिः आत् ऐच् इति। किं तर्हि, उदाहरणं प्रत्युदाहरणं वाक्याध्याहार इत्येतत् समुदितं व्याख्यानं भवति। भाष्य १. ११.

and Patañjali. As observed by Kielhorn: 'To what extent Kātyāyana and Patañjali were indebted to those that went before them, we shall never know; judging from the analogy of the later grammatical literature of India we may, in my opinion, certainly assume, that, like Pāṇini himself, both have based their works on, and have preserved in them all that was valuable in the wrintings of their predecessors.' (*Ind. Ant*, XVI. p. 106). This statement from one of the most eminent authorities on Indian grammar in recent times brings out the characteristic feature of the evolution of Indian grammatical tradition from Pāṇini to Patañjali, and the same with equal soundness holds good for the period from Patañjali to the *Kāśikā*.

CHAPTER II

GEOGRAPHICAL DATA

SECTION 1. INTRODUCTORY

The most important contribution of the *Ashṭādhyāyī* to the history of ancient India is its geographical information. The country, its mountains and ocean, forests and rivers. natural and territorial divisions (*janapadas*), towns and villages receive their full share of attention in the linguistic material dealt with by Pāṇini. It is here that the grammarian can be credited with having created his material in a very real sense by undertaking an original survey of the place-names in the vast area of the country stretching from Kamboja (Pamir region) and Kāpiśī (Begrām in Afghanistan) to Kaliṅga (Orissa) and Sūramasa (Sūrmā Valley in Assam). The question may be asked as to the *raison d'etre* of the rich geographical information that a work proclaimed to deal with grammar contains.

The answer to this may be understood in this way. Place-names form an integral part of language which it is the object of grammar to discuss and regulate. The analysis which Pāṇini has given of the underlying meanings which relate names of places to social life and background, shows conclusively that such names do not originate by mere accident. but are the outcome of social and historical conditions with which a people are intimately connected. These conditions are reflected in language in the geographical names. An etymological approach to the place-names of a country reveals to us many a forgotten chapter of history and settlement on land, and the contribution that Pāṇini makes in this respect through his grammatical expositions possesses abiding historical value. He has given a list of endings of place-names by which geographi-

cal places are classified. Most of the names of the geographical places originate, as he points out, from one or the other of the following factors :

(1) 'this object is found in a particular place' ;

(2) 'the place was founded (*nirvritta*) by such and such a person' ;

(3) 'the place was the abode (*nivāsa*) of such a person, or a community' ; and

(4) 'the place is located in proximity (*adūrabhava*) to a known object.'

It will thus appear that places are here distinguished for their founders, their economic products, their historical associations and their proximity to monuments. These four descriptions are termed *Chāturarthika*, 'suffixes with four-fold meaning'.

Pāṇini also instances places which have lent their names to persons as the places of their own residence (*nivāsa*), such as *Māthura*, or of their ancestors (*abhijana*, IV, 3. 90), such as *Saindhava*, 'one whose ancestors lived in Sindhu'. Besides persons, commodities may also be associated with places as their origin, e.g., the wine (*phalaja-madhu*) known as *Kāpiśāyana* which was known after the place of its origin called Kāpiśī (IV. 2. 99). Animals also were called sometimes after the places of their origin, e.g., *Rāṅkava* or *Rāṅkavāyaṇa*, a bull bred in the Raṅku country (IV. 2. 100) ; or *Kāchchha*, a bull of Kachchha country (IV. 2. 134). There may also be other associations of names with places under the general rule stated in the *sūtras* IV. 2. 92-145 (*Śaishika*), e.g., *Kāśika*, 'the cloth woven at Kāśi' (IV. 2. 116). An assemblage of meanings can be seen in *Kāchchhaka* which used to denote (a) an inhabitant of Kachchha, (b) the turban (*chūḍā*) peculiar to its people, (c) their mannerisms in speech (*jalpita*) and laughing (*hasita*). The term *Saindhava* is also cited under this rule with reference to the above peculiarities of its people.

Another class of geographical names is that of regions or provinces (*vishaya*, IV. 2. 52-54), called after their peoples, e.g., *Śaiba*, the region of the Śibis; *Aprītaka*, the region of the Aprītas (= Afridis); *Mālavaka*, the region of the Mālava people. Similarly, *Rājanyaka* (of the Rājanya tribe), *Traigartaka* (Kangra), *Vāsātika* (of the *Vasātis* or the Ossadioi, Sibi in Baluchistan), *Vairāṭaka* (Bairāṭ in Jaipur), *Audumbaraka*, and so forth. The names according to *vishaya* seem to be based on the ethnic distribution of population over particular areas for the time being without reference to the form of government.

Places were also named after the nature of their polity. Thus Pāṇini divides *janapadas* into two classes, firstly *janapadas* under monarchy (*Ekarāja*), enumerated in *sūtras* IV. 1. 168-176; and secondly *janapadas* as republics (*Saṅgha*), shch as Vāhīka where flourished the Āyudhajīvī Saṅghas (Military Republics).

The suffixes applied to these names point to the types of government (*Tadrāja*) associated with their names.

This in short illustrates Pāṇini's scientific classification of place-names on the basis of the principles underlying their formation.

Names of rivers, forests and mountains are noticed not in connection with any social or historical significance, but as examples of linguistic peculiarity, such as vowel-lengthening (IV. 3. 117-120) or cerebralisation (VIII. 4. 4-5).

Kātyāyana and Patañjali following Pāṇini add more examples to his. For instance, under Sālvāvayava (IV. 1. 173) Patañjali mentions the names of the states belonging to the Sālva Janapada (*Bhāshya*, II. 269); under *sūtra* IV. 1. 172 illustrating names of countries beginning with the letter *n*, Nichaka and Nīpa (II. 269); and under the Rājanya *gaṇa*, Vasāti, Devayāta, Bailvavana, Ambarīsha-putra and Ātmakameya, which probably go back to Pāṇini himself (IV. 2. 52; II. 282).

GEOGRAPHICAL HORIZON—Pāṇini knew of a wide geographical horizon. The extent of the country known to him is indicated by several landmarks mentioned in the *sūtras*. The western-most point is Prakaṇva corresponding to the term *Parikanioi* mentioned by Herodotus and to the modern country of Ferghana. It may be noted that Pāṇini names Ṛishi Praskaṇva in *sūtra* VI. 1. 153, and from this name is derived as a counter-example, as given by the *Kāśikā*, the name of the country called Prakaṇva. To the south of Ferghana lay Kamboja (IV. 1. 175), which as will be shown later may be identified with the region of Badakshan-Pamir. South of it lay Kāpiśī (IV. 2. 99), capita- of the kingdom of Kāpiśa, which may be identified with modern Kohistan, south of the Hindukush. East of Kāpiśī was situated the country of the Vrātyas (the ancient Lohita-maṇḍala, modern Kafiristan), and then Dir (Dviravatīka), and Gandhāra (IV. 1. 169) comprising the valley of the Kabul river, with its frontier outpost at Takshaśilā (IV. 3. 93).

There are also mentioned from west to east *janapadas*, of (1) Madra (IV. 2. 131), (2) Uśīnara (IV. 2. 118), (3) Kuru (IV. 1. 172), (4) Bharata, called also Prāchya-Bharata as the dividing line between north (Udīchya) and east (Prāchya) (IV. 2. 113).

Eastern India is known by its divisions called (1) Kosala (IV. 1. 171) (2) Kāśi (V. 2. 116) (3) Magadha (IV. 1. 171) (4) Kaliṅga (IV. 1. 170) and Sūramasa (IV. 1. 170).

On the west side the country of Kachchha is mentioned (IV. 2. 133), and also the islands of the adjoining sea (*anusamudra dvīpa*, IV. 3. 10).

Further up, modern Sind is mentioned under the name of Sauvīra. Pāṇini had a direct knowledge of the country

as he shows acquaintance with its social life (formation of its *gôtra*- names) as will be explained later.

The southern limit of his horizon is indicated by the mention of Aśmaka (IV. 1. 173) of which the capital as known from other sources was Pratishṭhāna, modern Paiṭhaṇ on the Godāvarī.

DIVISIONS OF THE COUNTRY—Udīchya and Prāchya are the two broad divisions of the country mentioned by Pāṇini, and these terms occur in connection with the linguistic forms known to the eastern and northern grammarians. The Udīchya country included Gandhāra and Vāhīka, the latter comprising Madra and Uśīnara, and possible Trigarta also. The Kuru region in the south-east of the Punjab was contiguous with the Bharata *janapada*. The Bharata region separated the east from the west, as shown by Pāṇini's reference to Prāchya-Bharata, on which Patañjali remarks that the proper Prāchya country lies outside the sphere of the Bharatas (II. 4. 66 ; I. 493, *anyatra prāg-grahaṇe Bharata-grahaṇaṁ no bhavati*). The river Sarāvatī mentioned in Pāṇini (VI, 3. 120) formed according to commentators the boundary between the two divisions of Udīchya and Prāchya. It may probably be identified with the Dṛishadvatī or Chitāṅg flowing through Ambala district.

Both Udīchya and Prāchya were taken as the home (*Lôka*) of standard Sanskrit both in Pāṇini's time and earlier. In the time of Patañjali, however, this became contracted to Āryāvarta as the home of the *śishṭas* (persons proficient in the *śāstras*) whose language set its norm.

The last name Kukkuṭā-giri seems to represent the comparatively low peaks in the west of Afghanistan towards Herat which in Iranian geography were called *Uparisaena*, "The Falcon's Perch", and by the classical writers Paropamisus with special reference to their low height.

In *sūtra* IV. 3. 91 Pāṇini mentions peoples who lived by the profession of arms and were settled in hilly regions (*Āyudhajīvibhyaśchhaḥ parvate*). Hṛdgola, Andhakavarta and Rohitagiri are mentioned as names of particular hills occupied by these military Highlanders. The mention of Rohitgiri suggests their identification with the mountainous tracts in Afghanistan known as Rōha, the Tribal Area which is still the recruiting ground of good soldiery. In the *Mārkaṇḍeya Purāṇa* the home of the Highlanders (*Parvatāśrayiṇaḥ*, 57.56) is placed in the region of Nīhāra or Jalalabad (for which the *Vāyu* gives the true reading Nagarahāra; Pargiter, *Mar. P.*, p. 345). It may be added that Patañjali gives several new names of mountain-dwellers, of which Mālāvat (II. 287) is noteworthy as corresponding to Malākand, the mountainous district north of Dargai, the home of the Dārgalas in the country south of the Swat river.

FORESTS—Several names of forests are mentioned in *sūtras* VIII. 4. 4-5. Of these the five names enumerated in the first *sūtra* occur also in the *Koṭarādi gaṇa* giving a list of forest names (VI. 3. 117). Of these the Puragāvaṇa seems to be connected with Pāṭaliputra as the *Gaṇaratnamahodadhi* associates the Yakshī Puragā with Pāṭaliputra (verse 291). Miśrakāvaṇa appears to be the name of the well-known forest of Misrikh in Sitapur district. The Pāli literature, however, makes Missaka a mythical forest of the Tāvatiṁsa heaven (*Jātaka*, VI. 278; *Dict. Pāli Proper Names*). The other names, *i.e.* Sidhrakā-, Sārikā-, Koṭarā- and Agrevaṇa are unidentified. Similarly names like Śaravaṇa, Ikshuvaṇa, Plakshavaṇa, Āmravaṇa, Kārshyavaṇa, Khadiravaṇa and Piyūkshāvaṇa included in *sūtra* VIII. 4. 5 cannot be definitely identified since Pāṇini takes

them both as proper and common names. Some of these proper names are known in Pāli works; they may not have been big forests but mere groves of trees situated in the vicinity of big towns. For example, Khadiravaṇa occurs in the *Aṅguttara Nikāya* as the birth-place of the teacher Revata who was the foremost of the forest recluses and called Khadirvaṇīya after the place of his birth. Similarly Śaravaṇa is said to have been a settlement in the neighbourhood of Śrāvastī, where another great teacher Gosāla Maṅkhaliputta was born. Āmravaṇa is said to have been attached to the city of Rājagṛiha, and also Kāmpilya.

Forests of herbs and big trees (*Vibhāshaushadhi-vanaspatibhyaḥ*, VII. 4. 6) and those reserved for the grazing of cattle (*goshpada*, VI. 1. 145; *āśitaṁ-gavīna araṇya*, V. 4.7). are also mentioned.

RIVERS—On the north-west frontier Pāṇini mentions the river Suvāstu (IV. 2.77; Swat). This river with its tributary the Gaurī (mod. Panjkora) flowed through Gandhāra of which the upper part was known as Uḍḍiyāna, famous for its blankets called *pāṇḍu kambala*, mentioned by Pāṇini (IV. 2. 11). The western capital of Gandhāra was Pushkalavatī which is identified with modern Charsadda a little above the junction of the Swat with the Kābul river. The *Kāśikā* mentions Pushkarāvatī as the name of a river in three *sūtras* (IV. 2.85; VI 1.219; VI. 3. 119) along with certain other names as Udumbarāvatī, Vīraṇāvatī, Maśakāvatī. Of these Maśakāvatī seems to be identical with the name of the river on which Massaga or Massaka, capital of the warlike people known as the Āśvakāyanas was situated. It is possible that Pushkalāvatī and Maśakavatī were the designations of only those particular portions of the river Swat where it flowed past by these two great towns of Gandhāra in the south and north respectively. It may be added that Patañjali mentions Udumbarāvatī, Maśakāvatī, Ikshumatī and Drumatī definitely as names of rivers (II. 287). Of these Udumbarāvatī may have flowed through the country of the Audumbaras, and Ikshumatī

(also included in the Madhvādi group, IV. 2.86) is identical with a tributary of the Ganges referred to as Oxymagis by Arrian and now known as Īkhan (also Kālindī) flowing through Farrukhabad district.

The next great river mentioned in the north-west is the Sindhu after which the country to its east was named Sindhu, the present Sind-Sagar Doab (IV. 3.93). Taking its rise from the snows of western Kailāsa in Tibet, the Sindhu first flows north-west for about half of its length, and then reaching the Darad country in the north-west of Kashmīr and south of Little Pamīr it takes a southward course along which lay its most famous places. A geographical feature of the Indus descending from the defiles of Dardistan is expressed in the grammatical formation *Dāradī Sindhuḥ*, naming it after its immediate source (*Prabhavati*, IV. 3.83). Emerging from the Darad highlands the river enters the Gandhāra country with Swat or Uḍḍiyāna on its right and the ancient *janapada* of Uraśā (mod. Hazara in N.W.F.P) on its left until it receives its most important western tributary the Kabul river at Ohind, a few miles north of Attock where it is at present crossed by a bridge. Ohind was the ancient Udbhāṇḍa, the place of transhipment of goods across the Sindhu and the spot where the great northern trade-route called Uttarapatha in *sūtra* V.1.77 crossed the river. Pāṇini's own birth-place, Śalātura was a riparian town of the Indus situated at a distance of only about four miles from Ohind in the angle of the Kubhā and the Sindhu. About sixty miles east of Udhāṇḍa was Takshaśilā, the eastern capital of Gandhāra, and at an equal distance to the west was Pushkalāvatī (mod. Charsadda), its western capital. The trans-Indus country was known in ancient times as *Pāre-Sindhu* (Sabhāparva 51-11). Its famous breed of mares imported into India is mentioned by Pāṇini as *Pāre-vaḍavā*, 'the mare from beyond the border' (VI.2.42).

Varṇu, corresponding to Bannu on the other side of the river is mentioned in a *sūtra*, and also *Gaṇa-pāṭha*.

The Bannu valley is drained by the rivers Kurram (Vedic Krumu) and the Gambila or Tochi which unite and flow into the Indus. The *Kāśikā* commenting on *sūtra* IV. 2.103 speaks of Varṇu *deśa* named after the river Varṇu (*Varṇur-nāma nadas-tat-samīpo deśo Varṇuḥ*). It appears that the Kurram river after it left the Kurram Agency and from the point where it enters the Bannu valley was named Varṇu in ancient days. The place situated in proximity to Varṇu is mentioned as Vārṇava (IV.2.77, *gaṇa Suvāstvādi*). Although Bannu (Edwardesabad) is a modern town founded only in 1848, the valley after which the town was named is mentioned in ancient texts. Opposite Varṇu, across the river, was situated the famous Kekaya *janapada* mentioned in *sūtra* VII.3.2, comprising parts of the three modern districts Jhelum, Gujrat and Shahpur, adjoining which lay the Salt Range (Saindhava). To South of Kekaya was situated the Sindhu *janapvda* lying north to south between the rivers Jhelum and Indus. Along the lowermost course of the river Sindhu was situated the ancient Sauvīra *janapada* (IV.1.148), now known as Sind.

Of the rivers of the Punjab, Pāṇini mentions Vipāś (Beās) and the wells dug on its north side (*Udak cha Vipāśaḥ*, IV.2.74). The northern wells were more stable as being on high and dry ground than those on the other side, and the former were therefore distinguished by the peculiar accent on their names.

Pāṇini names two other rivers, Bhidya and Uddhya (*Bhidy oddhyau nade*, III. 1. 115). Uddhya is the same as Ujh flowing through Jasrota district and falling into the Rāvi (*Imperial Gazetteer of India*, Vol. XV, p. 73; located to the north-west of Mādhopur on the Rāvi, p. 107). On Pāṇini II.4.7 the *Kāśikā* illustrating the compound names of two rivers cites the example *Uddhyerāvati*, that is Uddhya and Irāvatī, the former of which we must consider as a tributary of the latter on the analogy of *Gaṅgā-Soṇam*, another example of the same rule, and of the counter-

example *Gaṅgā-Yamune*. Bhidya may be identified with a river named Baī, rising in Jammu about 15 miles to the west of Ujh, and flowing into the Rāvi in the Gurdaspur district. The names Uddhya and Bhidya suggest that they dried up in summer but flowed in torrents in the rains, as indicated by Kālidāsa who describes their brisk and wayward movements as those of lusty youths like Rāma and Lakshamaṇa (*Raghuvaṁśa*, XI. 8)

DEVIKĀ—Pāṇini also mentions the river Devikā and what grew on its bank (*Devikā-kūla*, VII. 1), which Patañjali describes to be *śāli* rice (III. 316). Pargiter rightly identified it with the river Deg (*Mārk. Purāṇa*, p. 292). According to the *Vishṇudharmottara Purāṇa* (I. 67. 15) the Devikā flowed through the Madra country, and joined the Ravi according to the *Vāmana* (ch. 84). Rising in the Jammu hills, the Deg flows through Sialkot and Sheikhupura districts and joins the Ravi. In each rainy season it deposits on its banks layers of rich alluvium soil which produce rice of fine quality that are famous all over the Punjab and exported from Muridke and Kamoke towns (cf. Jagannath Agarwal, On the Identification of the Devikā, *JUPHS*, 1944, Pt. II, pp. 76-79).

Pāṇini mentions another river Ajiravatī (VI. 3. 119) the Achiravatī of Pāli texts (modern Rapti) on which stood Śrāvastī. The next river mentioned in this region is Sarayū (VI. 4. 174) of which the Rapti is a tributary. It may be noted that Sarayū was also the name of a river in remote Ṛigvedic India flowing past Herat (derived from Hari-Rūd; cf. Old-Persian Harayū from Vedic Sarayū). Darius I (516 B. C.) in his inscription mentions *Haraiva*, the people of Harayū, equal to Pāṇini's *Sārava*. In the Elamite version of the Behistun inscription occurs the name Arriya (=Haraiva=Gk. Aria with its capital at Heart).

Another river Rathaspā is mentioned in the *Gaṇa-pāṭha* to *sūtra* VI. 1. 157 (*Bhāshya*, III. 96, *Rathaspā nadī*). This name occurs in the *Jaiminīya Brāhmaṇa* (Caland, *JB*.,

Extract 204) and in the Ādiparva (172. 20) where it is one of the seven sacred rivers between Sarasvatī on the one side and Gaṇḍakī on the other. Most probably it was a river of Pañchāla and the name may correspond to Rhodopha which is mentioned by the Greek writers as marking an important stage on the great royal road from the Frontier to Pāṭaliputra. Rhodopha is stated there to be 119 miles from the Gaṅgā; although it is called a town but the mention of the stages generally between two well-known rivers as Jhelum and Beās, Sutlej and Jamna, suggests its having been the name of a river (*Megasthanes*, Fragm. LVI; Rawlinson *Intercourse between India and the Western World*, p. 64). The distance of 119 miles lands us on the banks of the Rāmagaṅgā which is the only big river between the Gaṅgā and the Sarayū to present difficulties of crossing so as to merit the name Rathasthā, given to it in the Vedic period, and which is still in its upper course known as Ruhut or Ruput (*Imp. Gazetteer, U. P.*, I. 166). The distance from Hastināpur on the Gaṅgā to Bareilly on the Rāmagaṅgā, and from Bareilly to Kanauj where the Rāmagaṅgā falls into the Gaṅgā, are equal to the stages of the Royal Road mentioned by Megasthenes from the Gaṅgā at Hastināpura to the town of Callinipaxa identified with Kanauj as the river Kālindī joins the Gaṅgā near it.

Rathaspā or Rathasthā as the name of a river occurs as an independent *sūtra* in the *Ṛiktantra Prātiśākhya* (sūtra 209).

Śarāvatī is mentioned in *sūtra* VI. 3. 120 (*Śarādīnām cha*). Several rivers lay claim to this name (cf. Dey's *Geog. Dict.*), the most famous one was that which separated the Udīchya from the Prāchya country already noted.

Of the rivers of Central India (now Madhya-Pradeśa) Pāṇini mentions Charmaṇvatī (Chambal, VIII. 2. 12).

Pāṇini uses the term Rumaṇvat, which the *Kāśikā* connects with a place producing salt (*Lavaṇa-śabdasya rumaṇa-bhāvo nipātyate*). The form Rumaṇvat may have been based

on the name Rumā, a river or lake in the district of Sambhar in Ajmer which is also the source of the river Lūnī.

DESERT REGIONS—Pāṇini mentions a desert region as *dhanva* (IV.2.121), of which two examples are cited by Patañjali, *viz.* Pāre-Dhanva and Āshṭaka (II. 298), and another by the *Kāśikā* as Airāvata. Pāre-dhanva literally means 'across the desert', which seems to refer to the region called Thar-Parkar to the west of the Marusthala desert of Rajasthan. Ashṭakadhanva seems to be the name of the desert region of the Attock district which is called Dhanni, probably from *dhanva*. East Gandhāra included the desert of Attock and the hilly tracts of Rawalpindi called Pṛith *janapada*, both of which are preserved in the joint name Dhanni-Pothowar. The Bhīshma-parva (VI. 7) places Airāvata-varsha beyond the Sītā or Yarkand river in Chinese Turkestan, where we may look for Airāvata Dhanva in the desert regions of Central Asia.

CH. II, SECTION 4. JANAPADAS

An important geographical term used by Pāṇini is *Janapada*, which was both a state and a cultural unit, its culture counting more than its geography. Its cultural integrity was reflected and preserved in the manners, customs and above all the dialect of its people. The citizens of the same (*samāna*) *janapada* were called *sajanapadāḥ* (V. 3. 85). The *janapadas* known to Pāṇini are the following :—

1. *Kamboja* (IV. 1. 175). Gandhāra, Kapiśa, Bālhīka, and Kamboja are the four *janapadas* the relative positions of which should be clearly understood. Of thsee Gandhāra extended from Takshaśilā, its eastern capital to the river Kunar, its western boundary, and from the river Kābul in the south to Swat in the north. Next to it was the kingdom of Kapiśa coinciding with modern Kohistan-Kafiristan and occupying the whole area between the river Kunar and the Hindukush (Cun. *Geog.*, p. 20-23). The latter mountain identified as Rohitāgiri separated Kapiśa from Bālhīka. Sometimes Kapiśa politically formed part of Gandhāra, as in the reign of Darius, and then the name Gandhāra was applied to both of them. In none of these three *janapadas* can Kamboja be included. It stands as a separate *janapada*, which Lassen correctly identified with the head-waters of the Oxus comprising the Ghalcha-speaking areas of Pamir.

This identification is also supported by important linguistic evidence, *viz.* that the root *śava* 'to go' which was noticed by Yāska as a peculiarity of Kamboja speech (*Śava-tir-gatikarmā Kambojeshveva bhāshyate*, *Nirukta*, II. 2), is still current there. (Cf. Grierson, *Linguistic Survey of India*, Vol. X, pp. 468, 473, 474, 476, 500, etc; Jayachandra, *Bhārata-Bhūmi*, pp. 297-303). The Kambojas are known as Kambujiya in the Old-Persian Inscriptions. In

the *Aitareya Brāhmaṇa* the Uttarakurus and the Uttaramadras are described as living beyond the Himālaya (VIII.14); and the *Vaṁśa Brāhmaṇa* Kāmboja Aupamanyava is spoken of as a pupil of Madragāra, from which the *Vedic Index* postulates a possible connection of the Uttaramadras with the Kambojas, who probably had Iranian as well as Indian affinities. (*Vedic Index*, I.84, 138 cf. also Jean Przyluski, An Ancient People of the Punjab : The Udumbaras, *Journal Asiatique*, 1926, p. 11 showing that Bālhīka was an Iranian settlement of the Madras; Bālhīka-Uttaramadra).

2. *Prakaṇva*. The name is corollary to Praskaṇva in *sūtra*, VI.1.153 and is stated by the *Kāśikā* to have been a country (*deśa*). It should be identified with the people mentioned by Herodotus as *Parikanioi*, (modern Ferghāna, Sten Konow, *Kharoshṭhī Ins.*, p. xviii) who are said to have formed part of the empire of Darius. Prakaṇva was thus situated immediately to the north of Kamboja or the Pamir region.

3. *Gandhāra*. Pāṇini mentions both the Vedic form Gāndhāri as the name of the *janapada* and its people in *sūtra* IV.1.169, and its later form Gandhāra in the *gaṇas* to IV.2.133 and IV. 3.93. Gandhāra extended from the Kābul Valley to Takshaśilā. Two towns of Gandhāra are mentioned, *viz.* Takshaśilā, its eastern capital, and Pushkalāvatī, the western. The latter occurs in a *gaṇa* as the name of a river on which the town stood. The Greeks refer to it as Peucelaotes (modern Charsadda, situated near the junction of the Swat with the Kābul). The Pushkalas of the *Mārkaṇḍeya Purāṇa* must be the people of this region. The country between the rivers Suvāstu and Gaurī was known as Uḍḍiyāna which Kātyāyana mentions as Aurdāyana (*Bhāshya*, IV.2.99; II.292). It was considered in ancient days a part of Gandhāra. A special variety of blankets known as *pāṇḍu-kambala* (IV.2.11) was a product of Gandhāra. Gandhāra is also known to the *Atharvaveda* for its wool.

4. *Sindhu*. Sindhu was originally the name of the river, which gave its name to the whole country. The term Sindhu was corrupted to Hi(n)du in the Old Persian inscriptions of Darius I (516-485 B.C.) and to Indus by the Ionian (= Pāṇini's Yavana) Greeks. Sindhu as a *janapada* may be identified with Sind-Sāgar Doāb, the region between the Jhelum and the Indus. Most of it is now the sandy desert of Thal.

5. *Sauvīra* (IV.1.148). Pāṇini mentions Sauvīra and gives valuable social history of the region. It was the home of many *gotras* of which he names two, Phāṇṭāhṛiti and Mimata, and the *Kāśikā* following an old tradition adds Bhāgavitti, Tārṇabindava, Akaśāpeya, Yamunda and Suyāmā. Bhāgavitti is also mentioned by Patañjali (II.243) and may be identified with the present Bugti tribe on the northern border of Sind, numbering about thirty thousand. Pāṇini mentions Śarkarā or Śārkara (modern Sukkur on the Indus) as a town (IV.2.83). The name was suggested by its proximity to the rocky region (*śarkarāyāḥ adūrabhavaḥ* on the borders of which Sukkur is situated.

Pāli literature mentions Rauruka (modern Rori in Upper Sind) as the capital of Sauvīra.

6. *Brāhmaṇaka*. It is mentioned in Pāṇini's *sūtra* V.2.71. Patañjali definitely calls it a *janapada* (*Brāhmaṇako nāma janapadaḥ*, II.298). The significance of its name is brought out by the *Kāśikā*, which describes it as the land of Brahmins who were *āyudhajīvins* or followers of military art, (*yatrāyudhajīvino Brāhmaṇāḥ santi*). Their military traditions continued up to the time of Alexandar whose invasions they resisted with petriotic heroism (Plutarch, *Alex.*, 59). The Greeks call them *Brachmanoi* and locate them in middle Sind (*Arrian*, VI.16), of which the capital is still called Brahmanabad (Cunningham, *Ancient Geog.* p. 310).

It may be noted that even Rājaśekhara (9th century A.D.) names Brāhmaṇavaha ('abode of Brāhmaṇas') as

one of the *janapadas* of the west. The Muslim geographers called Brahmanabad as Bahmanwā after this old tradition.

It may be noted that Patañjali mentions two formations *a-Brāhmaṇaka* and *a-Vṛishalaka* as names of countries (I.301), corresponding to Śaudrāyaṇa and Brāhmaṇaka respectively.

Śaudrāyaṇa or the Śūdra country is mentioned along with other names in the *gaṇa* Aishukāri (IV.2,54) which denoted names of countries after their peoples (*Vishayo deśe*). Like the Brāhmaṇas, the Śaudrayanas (=Greek *Sodrae*) also are mentioned as having opposed Alexandar. Cunningham treats the present Soḍā Rajputs of south-east Sind around Umarkot as their descendants (*Ancient Geog.*, p. 201). Diodorous couples the *Sodrae* with the *Massanae* as occupying the opposite banks of the Indus. Cunningham equates the *Massanae* with the *Mausarnaioi* of Ptolemy, which name corresponds to the Masūrakarṇa (derivative Mausurakarṇa) of the *Gaṇa-pāṭha* (II.4.49; IV.1.112).

7. *Apakara*. This name is mentioned along with Sindhu in *sūtra* IV.3.32, to explain the forms Apakaraka and Āpakara, denoting its products. It may be identified with Bhakkhar on the Indus in Mianwali district.

8. *Pāraskara* (VI.1.157). This is montioned in the *gaṇa* Pāraskara-prabhṛiti. Patañjali treats it as a country (*Pāraskara deśaḥ*. III.96). The name corresponds to Thara. Pāikara ((Thara being the Sindhi form of Thala meaning dry country or desert, as opposed to Kachchha or *jāṅgala* country), one of the biggest districts of Sindh which once denoted the whole of its south-eastern part up to the coast of the Great Rann of Kachchha or Kachchha-Iriṇa.

The *Ṛiktantra* takes the name Pāraskara as that of a mountain, and the term Pārakara for non-mountainous region, such as the Thar-Parkar district (*Pāra parvate*, IV.5.10, Suryakant's edition, p. 41).

9. *Kachchha* (IV.2.133). Kachchha represented the water-logged portions in the south as against the dry desert area in the north. Kachchha was historically connected with Sindh forming its province in the seventh century when Yuan Chwang visited the country. Cunningham says that Kachchha and Parkar have always been linked together (*Anc. Geog.*, p. 347). Pāṇini also refers to the names of towns ending in Kachchha (IV.2.126), which were mostly situated along the coast from Bhṛigu-Kachchha to the province of Kachchha. The inhabitants of the Kachchha *janapada* were known an Kāchchhaka, and a reference to their peculiarities in speech, laughing and dress has already been noted.

10. *Kekaya* (VII.3.2). The descendants of the Kshattriyas of the Kekaya *janapada* were known as Kaikeya. The ancient Kekaya *janapada* consisted of the territory now comprised in the three districts of Jhelum, Shahpur and Gujerat.

11. *Madra* (IV.2.131). Madra was a part of the Vāhīka country, as already seen. with its capital at Śākala, modern Sialkot. Pāṇini mentions two divisions of Madra, Pūrva (Eastern) and Apara (Western) (*Diśo' Madrāṇām*, VII.3.13; also IV.2.108). Pūrva-Madra extended from the Ravi to the Chenab and Apara-Madra from the Chenab to the Jhelum.

In the *Mahābhārata* Śākala is mentioned as the chief city of the Vāhīkas on the Āpagā river. Patañjali also mentions Śākala as a Vāhīka-*grāma* (IV.2.104; II.294; cf. also *Kāśikā*' IV.2.117). Pāṇini does not explain the derivation of the name Vāhīka. Kātyāyana, however, derives it from *bahis*. 'outside.' with the suffix *īkak* (IV.1.85.5). This seems to agree with the epic description of Vāhīka as the country of five rivers but lying outside the pale of Aryan society (*dharma-bāhya*). devoid of religion (*nashṭa-dharma*) and impure (*aśuchi*), Karṇaparva, 44.7.32).

12. *Uśīnara* (IV.2.118). Pāṇini mentions Uśīnara as a part of Vāhīka (cf. *Kāśikā* on IV.2.118, *Uśīnareshu ye Vāhīka-grāmāḥ*). In the *Gopatha Brāhmaṇa* the Uśīnaras are regarded as northerners (II. 9, *Savasośīnareshu Udīchyeshu*).

Thus Pāṇini names three divisions of the Vāhīka country, *viz.* Kekaya, Uśīnara and Madra to which is to be added the fourth division Śavasa. Of these Kekaya and Śavasa may be located between the Jhelum and the Chenab, the first in the south and the second in the north respectively, and Madra and Uśīnara between the Chenab and the Ravi in the north and south respectively. The divisions become clear on the map.

The *Divyāvadāna* refers to the Śvasas in Uttarāpatha with headquarters at Takshaśilā to which Aśoka was deputed by his father Bindusāra as Viceroy to quell their rebellion. The name Śavasa or Śvasa seems to be preserved in the modern name Chhibha comprising Punch, Rajauri and Bhimbhara. In literature the Uśīnaras are often associated with the Śibis (Gk. Siboi) whose chief town Śibipura has been identified with Shorkot, headquarters of a Tehsil in the Jhung district.

13. *Ambashṭha.* It is mentioned by Pāṇini in *sūtra* VIII.3.97, and is stated by Patañjali to be implied in *sūtra* IV.1.171 as the name of a *janapada* under a monarchy. The *Mahābhārata* locates them in the north-west and describes them as a kingship. The Ambashṭhas may be taken as Gk. *Abastanoi* or *Sambastai* on the lower course of the Chenab (*Invasion of Alexander*, p. 155).

14. *Trigarta.* It is mentioned by Pāṇini as an *Āyudhajīvī Saṅgha*, and a Confederation of Six States known as Trigarat-Shashṭha (V.3.116). The Trigarta country, although in itself marked out by natural boundaries from the rest of the province, was partitioned into smaller territorial divisions or *janapadas*. The name

Trigarta denotes the region drained by the three rivers, Ravi, Beas and Sutlej, and corresponds to the Jālandhar group of states which had retained their geographical identity all these years. Jālandharāyaṇa is mentioned in the Rājanyādi group (IV.2.53).

Patañjali mentions Pātānaprastha as a Vāhīka-grāma (II.298). It may be identified with Paithan or Pathānkot, situated at the entrance of the Kāngrā valley and at one time the capital of the Audunbaras (Cunningham, *A.S.R.*, XIV, p. 116; also V, p. 153).

The central portion of Trigarta formed by the valley of the Beas was also named Kulūta (same as Ulūka of the Sabhāparva, 27.5-16), now known as Kulū. Its ancient capital was at Nagara on the Beas, a name included in the Katryādi *gaṇa* (IV.2.95).

Maṇḍamatī (Yavādi *gaṇa*, VII.29) was perhaps modern Maṇḍi, lying to the south of Kulūta. Pāṇini makes special mention of the Bhārgāyaṇa *gotra* in the Trigarta (IV.1 111).

15. *Kalakūṭa* (IV.1.173). It is mentioned as a *janapada* under a king. The Sabhāparva calls it Kālakūṭa and makes it a part of Kulinda (*Kulinda-vishaye*, 26.3) which was conquered by Arjuna. Pāṇini's Kuluna (*Gaṇa: pātha*, IV.2 133 and IV.3.93) seems to be the same as Kulinda and later Kuṇinda. Kulinda (Gk. Kulindrini) was known to Ptolemy as an extensive country including the region of the lofty mountains wherein the Beas, the Sutlej, the Yamunā and the Gaṅgā had their sources (McCrindle, *Ptolemy*, p. 105, 109). The Kalakūṭa lay somewhere in this area, with possible traces of its name in modern Kalka in the Simla hills.

16. *Kuru* (IV.1.172). It was known to Pāṇini as a *janapada* and a kingdom. He also mentions the town of Hāstinapura (VI.2.101), which was its capital. The region between the triangle of Thaneshwar, Hisar and Hastinapur

was distinguished by three different names: Kuru-rāshṭra proper between the Gaṅgā and the Yamunā with its capital at Hastināpura; Kurujāṅgala equal to Rohtak, Hansi, Hissar; and Kuru-kshetra to the north with its centre at Thaneshwar, Kaithal, Karnal. The *Kāśikā* mentions all the three as distinct geographical units (*Kuravaścha Kurukshetraṁ cha Kuru-Kurukshetram, Kuravaścha Kuru-jāṅgalaṁ cha Kuru-Kurujāṅgalam*, II.47). The name Asandīvat, the place with the king's throne where Janamejaya Pārikshita is stated in the *Mahābhārata* to have performed his sacrifice, is also noticed by Pāṇini (VIII. 2. 12). Pāṇini also refers to the householders' way of life obtaining amongst the Kurus (*Kuru gārhapatam*, VI. 2. 42) as against the ascetic way. It seems to be akin to the Kuru-dhamma of the *Jātaka* of that name which insisted on the purity of family life and the cultivation of proper domestic relations and virtues (*Kurudhamma Jātaka*, Vol. III, No. 276), a way of life and philosophy that are reflected in the basic doctrine of the *Bhagavadgītā* expounded in Kurukshetra.

17. *Sālva.* Pāṇini mentions Sālva (VI.2.135), Sālveya (IV.1.169) and Sālvāvayava (IV.1.173) as three distinct *janapada* units which were monarchies. Of these Sālva seems to have been the parent state, Sālveya equal to Sālvaputra, a collateral branch, and Sālvāvayava, a bunch of kingly states which the enterprising Sālvās either brought under their conquest or planted during the course of their colonising activity. The last although confined to a limited geographical horizon in the central and north-eastern Punjab, were in relation to each other not geographically contiguous.

The Sālva is mentioned as a pair *janapada* with Matsya as early as the *Gopatha Brāhmaṇa* (I.2.9) and also in the same group in the *Mahābhārata* (Bhīshmaparva, 10.3) where the Sālvās, the Mādreyas and the Jāṅgalas are juxtaposed. Matsya with its capital at Virāṭa (Bairāṭ in Jaipur) provides a fixed point and Sālva should be located near that region.

Making allowance for the position of the other known *janapadas*, the only place left for Sālva coincides with the territory extending from Alwar to north Bikaner. It may be mentioned that the Sālvas were an ancient people who seem to have migrated from the west through Baluchistan and Sindh where they left traces of their name in Śālvakāgiri (mentioned by Pāṇini in the *Gaṇa-pāṭha* to VI. 3. 117), the present Hālā mountain, and then advancing towards north Sauvīra and along the Sarasvatī finally settled in north Rajasthan. Of their intrusion towards the Yamunā some dim intimation is preserved in an old Vedic verse.[1]

Sālveyaka. The Sālveyakas are mentioned as a separate people in the *Mahābhārata*, grouped with the Matsyas in their fight with king Suśarmā of Trigarta (Virāṭaparva, 29. 2). They must be the same as Sālvaputra mentioned in the Udyogaparva (4. 24) amongst kings to whom the Pāṇḍavas were to send emissaries. The name Sālvaputra may still be traced in Alwar, which is in the same geographical sphere. The Sālveyas stood in relation to the Sālvas as the Mādreyas to the Madras (Bhīshmaparva 10.37).

Sālvāvayava. Of the several member states grouped in the Sālavāvayava confederacy, the *Kāśikā* mentions six, viz. 1. Udumbara, 2. Tilakhala, 3. Madrakāra, 4. Yugandhara, 5. Bhūliṅga and Śaradaṇḍa (IV. 1. 173).

Udumbara. The Udumbara (also Rājanyādi group, IV. 3. 53) territory is fixed by the find-spots of their coins in the Kangra valley, between the Ravi and the Beas, and at Pathankot in Gurdaspur district at its mouth (Allan, *Coins of Ancient India*, Intro. p. lxxxvii). Udumbarāvatī as a river-name (*Bhāshya*, IV. 2. 71 ; II. 287) might be some

1. *Yaugandharireva no rājeti Sālvir-avādishuḥ, Vivritta-chakrā āsīnās-tīrena Yamune tava.*

'The Sālva women turning their wheels and sitting on thy banks, O Yamunā, have told us that their king is a Yaugandhari' (Un ancien peuple du Panjab : Les Sālva, *Journal Asiatique 1929*, (pp. 311-354, p. 314). Keith considers a reference to war-like raid more plausible.

tributary flowing through the Udumbara country on which the town of the same name was situated.

Tilakhala. Looking at the map of this region we find that the area south of the Beas comprising Hoshiarpure distrtct, where even today sesamum forms the main crop should be indentified with Tilakhala ('the threshing-floors of *tila*'). Thus Tilakhala and Udumbara were immediate neighbours, and the former appear to be the same as the Tilabhāras of the epic (Bhīshmaparva, 10.51).[1]

Madrakāra. The Madrakāras, as pointed out by Prof. Przyluski, signified the warrior-troops of the Madras (Les Salva, *Journal Asiatique*, 1929, pp. 311-354; from old Persian *kāra* meaning 'army'). Their connection with the Sālvas was the outcome of an important event in the history of the two peoples, viz. the marriage of the Madra princess Sāvitri with the Sālva prince Satyavān (Vanaparva 279-15). It appears that consequent to this marriage three new small kingdoms came into existence for which distinct names have been preserved, e. g. 1. Sāvitrīputrakāḥ, 2. Madrakāraḥ and 3. *Śālvasenyaḥ*. The first represented the hundred sons of Sāvitrī and Satyavān mentioned both in the *Mahabhārata* (*Vanaparva*, 283. 12; Karṇaparva, 4.47) and in the *Gaṇa-pāṭha* (V. 3.166, *Dāmanyādi gaṇa*). *Putra* denoted a clan as in the names Kehar-potre, Chanan-potre, etc. amongst the Arora Khattris of the Punjab, or in such old designations as the Śākyaputras. The Madrakāras and the Śālvasenayaḥ[2] (Skt. *senā* corresponding to Iranian *kāra*; Bhīshmaparva 10.59), were smaller kingdoms of such warrior chiefs as were lent both by the Madras and the Sālvas in order to rehabilitate Sāvitrī and Satyavān who were bereft of their kingdom and married in exile.

1. Vulgate 9 53; Poona edition gives *tilakāḥ* in the text and *Tilabhāra* in the foot-note.

2. Vulgate 9.61. Poona edition gives *Sarvasenayaḥ* in the text and *Sālvasenayaḥ* in the foot-note. For *Sarvasenayaḥ* cf. Pāṇini, V. 3. 116; *Kāśikā*, VIII. 1. 5.

Madrakāra and Bhadrakāra appear to be variants of the same name *madra* = *bhadra*, *sutras* II. 3.73 add V. 4.67). It seems that Bhadra situated on the Ghaggar near the north-eastern border of Bikaner marks their old home.

Yugandhara. Yugandhara should be somewhere in the region of the Yamunā, since the Sālva women spinning on its banks, as mentioned above, invoked Yaugandhari as their king. It may be located in Ambala district between the Sarasvatī and the upper Yamunā, where Jagādhari, probably is a relic of the old name.

Bhūliṅga. The Bhūliṅgas should be identified with the *Bolingae* of Ptolemy settled in the north-west of the Aravallis. Bhūliṅga seems to be the same as Kuliṅga mentioned in the *Mahābhārata* (Bhīshmaparva, 10.38)[1] and the *Rāmāyaṇa* on the route connecting Sāketa and Kekaya at the point where the Śaradaṇḍā river was crossed (Ayodhyākāṇḍa, 68.16).

Śaradaṇḍa. The Śaradaṇḍa must have been settled along the Śaradaṇḍā river mentioned above. Nothing is known about it, but the first part of the two names Śaradaṇḍā and Śarāvatī points to their being one and the same river. The latter formed the boundary between the Prāchya and the Udīchya divisions of India and may be identified with the Dṛishadvatī or Chitāṅg.

Ajamīḍha and Ajakranda. Patañjali adds to this list three other names, viz. 1. Bodha, 2. Ajakranda and 3. Ajamīḍha. (IV. 1.170 ; II. 289). The prefix *Aja* in the last two names has reference to a local cult deity Asura Ajaka with whom king Sālva was identified as its incarnation Adiparva, 61.17).[2]

1. The critical edition records Kaliṅga in the text and Kuliṅga in the foot-note ; but all the *janapadas* in this list e. g. Sālva, Mādreya, Jāṅgala, Śūrasena, Bodha and Kuru-Pañchāla being of the Punjab-Rajputana region, the original reading must be taken to be Kulinga and not Kalinga, as supported by a Kashmir MS. also.

2. Vulgate 67.17 ; Poona edition gives *Malla* in the text and *Sālva* in the footnote.

Bodha. The Bodhas occur also in the list of the Bhīshmaparva (10.37-38) in the same group as the Kuliṅgas, the Sālvas and the Mādreyas. Patañjali also mentions them along with the Udumbaras (II. 4. 58 ; I. 489).

An important economic feature of the Sālva country was its special breed of bulls mentioned as Sālvaka by Pāṇini (IV. 2.136). The Sālva *janapada* also provided recruits for the infantry known in those days as *Sālvā padāti* (IV.2.135). Pāṇini further mentions a particular item in the Sālva dietary the porridge known as *Sālvikā yavāgū* made of barley, which is still a favourite food of the people in Bikaner and Jaipur states, i.e. the area which was formerly the Sālva *janapada.*

18. *Pratyagratha* (IV.1.173). It is the name of a *janapada* in Pāṇini. While Patañjali and the *Kāśikā* are silent on this name, we have the later authority of Hemachandra referring to the Pratyag-rathas as belonging to the Ahichchatrā region (*Abhidhānachintāmaṇi*, 4.22). It may be noted that Pāṇini mentions the river named Rathasthā (=Ruhut or Rāmagaṅgā), 'that which brings the chariot to a halt,' a meaning suggested by Pratyagratha also. It may be taken as the 'chariot' of Aryan advance marching towards the east.

19 *Ajāda* (IV.1.171). Nothing is known about this *janapada*. It is connected with the grazing of goats. It may be taken to be the Etawah district, the region between the Chambal and the Yamunā, famous for its goats (Hindi *jamnāpārī bakri*).

20. *Raṅku* (IV.2.100). Pāṇini uses the term Rāṅkavaka for a native of Raṅku. He also mentions the terms Rāṅkavāyaṇa and Rāṅkava to indicate what was nonhuman, as examples of which the *Kāśikā* mentions the *Rāṅkavāyaṇa* bull and the *Rāṅkava* blankets. It may be noted that Rangka is the name of a language used in parts of Almora district (Moti Chandra, Indian Costume, *Bhārtīya*

Vidyā, Vol. I, p. 46, footnote; for the Rangka language see, *Linguistic Survey of India*, Vol. III, pt. I, p. 479). So the Raṅku *janapada* may have been located in this region which was the home of woollen blankets. The area of ancient Raṅku must have been much bigger than at present.

21. *Bhāradvāja* (IV.2.145). The Kāśikā states clearly that Bhāradvāja in this *sūtra* is not a *gotra* name but a country. As Pargiter has remarked Bhāradvāja is often mentioned in the *Mahābhārata* in connection with the upper part of the Ganges near the hills, and the Bhāradvājas were the people living in Garhwal (*Mārk. Purāṇa*, p. 320) Pāṇini mentions the Ātreyas as a division on the Bhāradvājas (*Gaṇa-pātha Aśvādi*, IV.1.110, *Ātreya Bhāradvāje*), and the *Mahābhārata* and the *Mārkaṇḍeya Purāṇa* also group them together.

22. *Kosala* (VI.1.171). As seen above this figures as one of the sixteen *Mohājanapadas* of the Pāli texts. Its town Śrāvastī is mentioned by Pāṇini in a *Gaṇa-pāṭha*; also the two terms Sarayū and Ikshvāku in *sūtra* VI.4.174. Patañjali mentions Ikshvāku as a *janapada* (IV.2.104; II.298) which was obviously the same as Kosala.

23. *Kāśi* (IV.2.116). Pāṇini does not mention Kāśi as an independent monarchy like Kosala, and Magadha. The omission may be accidental, or due to political reasons reflecting the condition when Kāśi lost its separate identity and was under the control of Magadha. Pāṇini also mentions the term Vārāṇasi (the capital of the Kāśi *janapada*) in a *gaṇa* IV.2.97, and its citizens as *Vārāṇaseya*.

24. *Vṛiji* (IV.2.131). It was the name of a *janapada*. Its citizens were called *Vṛijika*.

25. *Magadha* (IV.I.170). It was a famous monarchy in Pāṇini's time, as we know from other sources. A Kshattriya descendant of the Magadha tribe was termed a *Māgadha*.

26. *Kaliṅga* (IV.1.170). Pāṇini mentions Kaliṅga as a *janapada* with a monarchy. Probably in his time the boundaries of Kaliṅga and Magadha touched each other.

27. *Sūramasa* (IV.1.170). As already noted this *janapada* may be identified with the Sūrmā Valley and Hill District of Assam.

28. *Avanti* (IV.1.175), an independent *janapada* with a monarchical government. Its capital Ujjayinī is referred to in the *Gaṇa-pāṭha* (IV.2.82 ; IV.2.127).

29. *Kunti* (IV 1.175). Patañjali instances Kunti and Avanti as *janapada* names ending in short *i* and implied in *sūtra* IV.1.171. The *Mahābhārata* speaks of Kunti as the region through which flowed the Aśva Nadī (Vanaparva 308.7), a tributary of the Chambal (Dey, *Geog. Dict.*, p. 109). Kunti must be identified with the region of Kontwar in Gwalior State, through which flows the Kumārī river. Pāṇini also refers to the compound names *Kunti-Surāshṭrāḥ* and *Chinti-Surāshṭrāḥ* indicative of the period when the royal houses of Kunti and Chinti were tied to Surāshṭra (VI.2.37).

This phenomenon belongs to Mahābhārata polity when the royal house of Kunti under Dantavakra and of Chinti under Śiśupāla suffered a reverse by Kṛishṇa and were tied to the political wheels of Surāshṭra. Chinti seems to be the old name of Chedi.

30. *Aśmaka* (IV.1.173). Pāṇini also refers to the pair names *Avantyaśmakāḥ*, showing their geographical proximity (VI.2.12). Aśmaka is named Assaka in Pāli texts with its capital at Paithan (Pratishṭhāna) on the Godāvarī.

Pāṇini refers to *Taitila-kadrū* (VI.2.42) which is mentioned after *Pāre-vaḍavā*, 'a mare from across the Indus' and may have denoted a tawny-coloured mare of the Taitila

country. Kauṭilya refers to horses imported from Taitila (*Arthaśāstra*, II.30). The *Mahābhārata* refers to horses of partiridge colour as *tittirakalmāsha* (Sabhāparva, 28.6; 19) which seems to be an equivalent of Taitila-kadrū. These horses came from the Uttara-Kuru regions (north of Pamir in Central Asia). The Taitila *janapada* may therefore be looked for in the neighbourhood of that region. But according to medieval lexicons Taitila was synonymous with Kaliṅga (*Nānārthārṇava*, II.891; *Vaijayanti*, p. 37, verse 26) which may be idetified with Titilgarh, south of Sambalpur in Orissa. In this case Pāṇini's Taitila-kadrū would refer to some tawny-coloured material produced in Kaliṅga, probably rhinoceros hides, from Taitila.

In the above list the following *janapadas* mark the extreme points of Pāṇini's geographical horizon, Kamboja in the north, Sauvīra in the west, Aśmaka in the south, Kaliṅga in the south-west and Sūramasa in the east.

Pāṇini also refers to boundaries of *janapadas* as known in the expression *janapada-tadavadhi* (IV.2.124). This indicates that the *janapadas* formed the boundaries of other *janapadas*, without needing any smaller landmark like a village (*Kāśikā*, *tadavadhirapi janapada eva gṛihyate na grāmaḥ*).

The *Gaṇa pāṭha* furnishes some additional names of *janapadas*, *viz.*, *Barbara* (IV.3.93), on the sea-cost near the mouth of the Indus where the port Barbarika was situated); *Kaśmīra*)(IV.2.133; IV.3.93); *Uraśā* (IV.3.93, modern Hazara) *Darad* (IV. 3. 93, modern Dardistan); *Gabdikā* (IV.3.93; Patañjali mentions the Gabdikās as living outside Aryāvarta in his time; to be identified with modern Gadderan, the homeland of the Gaddi tribe, beyond Dhaulidhar in the Chambā valley); *Paṭachchara* (IV.2.110, probably modern Pataudi), *Yakṛilloman* (IV.2.110 mentioned in the Bhīshmaparva 9.46 and Virāṭaparva 5.4, and corresponding to the region between Etawah in the north, Jalaun and Orai in the south, and Kalpi in the east); *Sarvasena* (IV.3.92; also

called Sārvaseni, cf. *Kāśikā*, VI. 2. 33 ; VIII. 1. 5 described as a dry region ; Bhīshmaparva 9.59). Patañjali mentions the names of two other *janapadas*, *viz.*, Ṛishika and Jihnu (IV. 2. 104 ; II. 298, Jihnu, perhaps modern Jhind). The name Ṛishika occurs in the *Mahābhārata* as part of Śaka-dvīpa. Arjuna conquered the Ṛishikas across the Vakshu (Oxus) 'which flowed through the Śaka country.' The Ṛishikas were later known as Yuechis whose language was called Ārśī.

Further substantial geographical information is obtainable from the *Ashṭādhyāyī* in the form of tribal names of people who were living under political constitutions of a varied character. These together with the names of localities as habitation of particular peoples after whom they were named, will be dealt with in a later chapter on political data.

CH. II, SECTION 5. TOWNS AND VILLAGES

The units of settlement comprised (1) *nagara* (town) (2) *grāma* (village) (3) *ghosha* (abode of herdsmen (VI.2.85) and (4) *kheṭa* (hamlets, VI.2.126). Pāṇini mentions separately the villages and towns of Eastern India (*Prāchāṁ grāma-nagarāṇām*, VII.3.14), but with reference to Vāhīka and Udīchya country he uses the term *grāma* in a generic sense to include all centres of population (IV.2.117 and IV.2.109). Patañjali in commenting on the distinctions between the terms *grāma* and *pura* remarks that these should not be settled by rules of grammar but by local usage (*tatrātinirbandho na lābhaḥ*, III.321).

The two terms *grāma* and *nagara* were used indiscriminately in the Vāhīka country, whereas the distinction between them in eastern India was much more sharp. This may be due to the fact that in the Punjab the villages also had grown in prosperity like the towns, and hence the word *grāma* there included *nagara* also in its connotation. The Greek accounts testify to the existence of about five hundred towns, all rich and prosperous, in the Vāhīka country, where naturally the old distinction of *grāma* and *nagara* must have lost its sharpness as reflected in the *Ashṭādhyāyī*.

Endings of place-names—Pāṇini uses these various endings to frame rules for explaining the formation of certain words derived from the places concerned, and this is explained by the following examples :—

1. *Nagara* (IV.2.142), e.g., Mahānagara and Navanagara, as names of towns 'not in the north' (*anudīchām*, VI.2.89) but in the east. Mahānagara as an eastern town is to be identified with Mahāsthāna, capital of north Bengal or Puṇḍra, and Navanagara with Navadvīpa, capital of west Bengal or Vaṅga. The latter seems to have sprung up as a 'new town' when the southern route from Rājagṛiha to the sea outgrew

in importance the route along the north bank of the Gaṅgā, from Mithilā and Aṅga to Puṇḍra. In between Mahānagara and Navanagara lay Gauḍapura (VI.2.100), modern Gauḍa, an important town on the route from Champā to Mahāsthāna and a trading centre for *guḍa* manufactured in the Puṇḍra country.

2. *Pura* (IV.2.122), which is mentioned by Pāṇini as an ending in the following names of towns, e.g., Arishṭapura (Pāli Ariṭṭhapura, a city in the kingdom of Śivi in Vāhīka), Gauḍapura (VI.2.100, Gauḍa in Maldah in Bengal); Hāstinapura (the well-known epic town in Meerut district), Phalakapura (Phillaur on the Sutlej in Jullundhar district.); Mārdeyapura (VI. 2. 101), probably Maṇḍāwar in Bijnaur district where the ancient route to Hastinapur crossed the Gaṅgā on its opposite bank.

Patañjali mentions Nāndīpura (IV.2.104 ; II.298) as a *Vāhīkagrāma*.

The *Kāśikā* adds the following names: Kāntipura (IV. 2.122); Lalāṭapura (probably in the region called Lalāṭāksha, modern Ladakh; Sabhāparva, 47. 15), Kārmpura, Nārmapura, Śivadattapura (VI.2.99) and Sivapura (a northern town, probably in the Śivi country).

3. *Grāma* (IV.2.142). Patañjali mentions a *grāma* called Ishukāmaśamī, both eastern and western (*pūrva, apara* (VI.1.85, III.62) to which the *Kāśikā* adds the name Kṛshṇamṛittikā (VII.3.14), both situated in Eastern India (*Prāchām*).

4. *Kheṭa* (VI.2.126), a small hamlet; Hindi and Gujrati *kheṛā*.

5. *Ghosha* (VI.2.85), a settlement of cowherds (*ābhīra-pallī*).

6-9. *Kūla, Sūda, Sthala, Karsha* (VI. 2. 129), endings applied to names of villages accoring to the *Kāśikā* (*grāmanāmadheyāni*) which gives the following examples: Dākshikūla, Māhakikūla; Devasūda, Bhājīsūda; Dākshikarsha. Kalhaṇa refers to *sūda* as a place-name ending (*Rāj.* 1.157, *Karsha*

of Pāṇini might be the same as *karshū* (pit or hollow of older literature (*Drāhyāyaṇa Gṛihya*, III.2.31; Khādira, III.5.36).

The ending *sthala* occurs in the name Kapisthala implied in *sūtra* (VIII.3.91 modern Kaithal in Karnal district). It may be noted that the ending *sthala* had an alternative form *sthalī* (IV.1.42). Pāṇini takes it in the sense of a natural (*akritrima*) dry land. The *Kāśikā* instances under *sthalī* Dāṇḍāyanasthalī and Māhakisthalī.

10-11. *Tīra* and *Rūpya* (IV.2.106). In another *sūtra* Pāṇini gives the name Kāstīra as that of a *nagara* (VI.1.135),. Patañjali takes it to be a *Vāhīka-grāma* (IV.2.104, II.293).

The *Kāśikā* mentions Kākatīra, Palvalatīra, and Vṛikarūpya, Śivarūpya, respectively as examples of these endings.

12-15. *Kachchha*, *Agni*, *Vaktra*, *Garta* (IV.2.126). No examples of these names are found in the *sūtras* and in Patañjali, but there was the well-known seaport called Bhṛigukachchha (Bharukachchha, *Jāt.* No. 463) called Broach. The *Kāśikā* instances under *kachchha* Dāru-kachchha and Pippalī-kachchha (Rajpipla near the mouth of the Narbada); under *agni* Kāṇḍāgni and Vibhujagni (modern Bhuj); under *vaktra* Indravaktra and Sindhuvaktra; under *garta* Bahugarta and Chakragarta.

Here we have four pairs of eight geographical names, preserved as grammatical examples from antiquity. A careful glance at the map of western India affords clue to their identification. Standing at the head of the Gulf of Cambay, we have to our lefr Pippalī-kachchha, the sea-coast of Pippalī, comprising the delta areas of Sābarmatī, Mahī, Narmadā and Tāptī rivers, of which the old name is still preserved in Pīplā or Rāj-Pīplā. To our right is the sea coast of Kathiawar, literally equivalent of Dāru-kachchha (*Dāru* = *Kāshṭa*).

Agni refers to a burning sandy tract, equivalent to Skt. *Iriṇa* or Rann. Vibhujāgni refers to the great Rann of Cutch-Bhuj in the north-west and Kāṇḍāgni to the Little Rann of Cutch towards the north-east, traces of its name being preserved in the sea-port of Kāṇḍalā.

Of the pair of names ending in *vaktra* Sindhu-vaktra clearly refers to the Indus Delta in lower Sindh depending for its irrigation on that river, and therefore a *nadīmātṛika* region. Opposed to it were the *deva-mātrika* tracts of Baluchistan where the parched soil depends for irrigation on whatever it gets as scanty rainfall. The country was therefore called Indra-vaktra as opposed to Sindhu vaktra. The Mahābhārata mentions the exact nature and location of these two regions (Sabhāparva, 51,11-12), the agricultural produce in one being called *Indrakṛishṭa* and in the other *nadīmukha* (*Indrakṛishṭair-vartayanti dhānyair-ye cha nadīmukhaiḥ*). The former lay across the river Indus (*Pāre-Sindhu*, Sabhā., 51.11); and comprised the peoples of Kej-Makran named *Kitāvāḥ* (= Kej), *Pāradāḥ* (= Hingulaj) and *Vairāmāḥ* (= Rambakia of Alexander's historians; Sabhāparva, 51.12).

The last pair of names refers to Bahugarta and Chakragarta. Bahugarta refers most likely to the valley of the Sābarmatī, Skt. Śvabhramatī, literally the river of holes or pits (*śvabhra* = hole, pit). Chakragarta refers to the region of Chakra-tīrtha on the Gomatī near Dvārkā in Prabhāsa-kshetra. The two indicated the peculiarity of the natural terrain formed by undulating loessic dunes.

Pāṇini refers to *garta*-ending names again in *sūtra* IV.2.137 and separately mentions Trigarta. Patañjali names Śvāvidgarta as a *Vāhīka-grāma* (IV.2.137), to which the *Kāśikā* adds Śṛigālagarta, Vṛikagarta, both *Vāhīka-grāmas*.

16. *Palada* (IV.2.142) found in such names as Dākshipalada. This word in the *Atharvaveda* (IX,2.17) denotes straw and may have denoted a place in the

vicinity of which stumps of various weeds and grasses were found.

17. *Arma* (VI. 2 90). Pāṇini mentions Bhūtārma, Adhikārma, Sañjīvārma, Madrārma, Aśmārma and Kajjalārma (VI.2.91), to which the *Kāśikā* adds Dattārma, Guptārma Kukkuṭārma, Vāyasārma, Bṛihadarma, Kapiñjalārma, Mahārma and Navārma. The *Tāṇḍya Brāhmaṇa* mentions a lake (*hrada*) called Sthūlārma north of the Sarasvatī, where on its pasture-lands 100 cattle had grazed and increased to 1,000 (XXV. 108). The word *arma* in the *Baudh. Śrauta Sūtra* (ix 1; ix.3) is explained by the commentator as a village in ruins (*vinashṭagrāma*) and deserted (*śūnya*).

18. *Vaha* (IV.2.122). Pāṇini mentions Pīluvaha in *sūtra* VI.3 121, on which the *Kāśikā* adds Ṛishīvaha, Kapīvaha, Munīvaha, Piṇḍavaha, Dāruvaha and Phalgunīvaha (probably modern Phagwara, IV.2122). Patañjali names Kaukkuḍīvaha as a *Vāhīka-grāma*.

19. *Hrada* (IV.2142). The *Kāśikā* repeats the stock-examples Dakshi-hrada and Māhaki-hrada. The *Mahābhārata* knows Rāma-hrada in Kurukshetra (Āraṇyakaparva, 81.22).

20. *Prastha* (IV.2.122; IV. 2.110). Pāṇini mentions Karkīprastha and Mālāprastha in *sūtras* VI.2.87-88, and in the *Gaṇa-pāṭha* adds: Maghī-, Makarī-, Karkandhū-, Śamī-, Karīra-, Kaṭuka-, Kavala-, Badarī, (VI.2.87), Śālā-, Śoṇā- (Sonepat), Drākhsā-, Kshaumā-, Kāñchī-, Eka- and Kāma-. To these the *Kāśikā* adds: Indraprastha (well-known epic town), Kuṇḍa-, Hrada-, Suvarṇa-, Dākshi and Māhaki, the latter two being stock-examples.

In *Pāli* the term *prastha* is thus explained by Buddhaghosha: 'It denotes a place outside the *grāma*, a wasteland not used by men either for ploughing or sowing (*Dhammapada-Aṭṭhakathā*, 1.210; *Dīgh.* 1.71). It may be noted that the places ending with *prastha* (Hindi, *pat*) are confined mostly to the Kuru country, such as Panipat, Sanepat, Baghpat,

Tilpat, etc., and to the region of the Himalayas watered by the Ganges.

21. *Kanthā* (IV.2.142). Pāṇini gives the interesting information that this ending was in use in Uśīnara (II.4.20) and Varṇu (Bannu) (IV.2.103). He names the following places :—

Chihaṇakantha, Maḍarakantha, Vaitulakantha, Paṭatkakantha, Vaiḍālikarṇakantha, Kukkuṭakantha, Chitkaṇakantha, the first one in *sūtra* VI.2.125 and the rest in *gaṇa*.. The ending and the place-names seem to show that Pāṇini was drawing upon the linguistic material of the frontier country and its non-Aryan dialects. *Kanthā* was a Śaka word for a town as in the expression *kadhavara = kanthāvara* occuring in a Kharoshṭhī inscription: "Here belongs Sogdian expression *kanda*- "city", and Śaka *kantha* "city", earlier attested in Markantha" (Lüders *JRAS*., 1934, p. 516; also Sten Konow, *Corpus of Kharoshṭhī Inscriptions*, p. 43; *Śaka Studies*, pp. 42, 149, *kantha* "town' in feminine gender). H. W. Bailey also points out that the Persian word *kand*, Khotanese *kanthā*, Sogdian Buddhist Sanskrit *kandh*,Asica (the dialect of the Ṛishikas or Yue-chis) *kanda*, are all akin to Sanskrit *kandā* (H. W. Bailey, Asica, *Transactions of the Philological Society*, 1945, pp. 22-23).

It may be noted that in the time of Pāṇini and as stated by Darius I, in his inscriptions, the Śakas were living beyond the Oxus (*Śaka tyiy paradraya* 'the Śakas to the east of the Caspian Sea, Naksh-i-Rustam Ins.). That region naturally still abounds in *kanthā*-ending place-names, as Samar-kand, Kho-qand, Chim-kand, Tash-kent, Panj-kand, Yar-kand, all indicating Śaka influence.

The *Mahābhārata* speaks of the Śakas as living in this region, named by it as Śākadvīpa and particularly mentions its places like *Chakshu* (= Oxus), Kumud (= *Komedai* of Herodotus, a mountain in the Śaka country), *Himavat* (= Hemodan mountain), *Sītā* (= Yarkand river), *Kaumāra*

(= Komarai of Herodotus), *Maśaka* (= *Massagetai* of Strabo), *Ṛishika* (= *Asioi*), *Tushāra* (= Tokarai).

Pāṇini also must have known the Śakas, not in Seistan but in their original home in Central Asia. How a string of *kanthā*-ending place-names was found in the Uśīnara Country in the heart of the Panjab, is an unexplained problem. It points to an event associated with Śaka history even before Pāṇini, possibly an intrusion which left its relics in place-names long before the Śaka contact with India in the second century B. C. Kātyāyana mentions *Śakandhu*, *Karkandhu*, two kinds of wells of the Śakas and the Karkas (*Karkians*), which may be identified as the stepped well (*vāpī*) and the Persian wheel (*arghaṭṭa*) well respectively.

Lastly we owe to the *Kāśikā* the following names ending in *kanthā*; Sauśamikantha, Āhvarakantha, both in the Uśīnara country in Vāhīka (II. 4.20).

TOWNS—Pāṇini's geography mentions towns which may be grouped under two divisions, called *Udīchyagrama* (IV. 2. 109) and *Prāchyagrāma* (VII. 3.14). Among the *Udīchya* towns some lay in the *Vāhīka* country (*Vāhīka-grāmas*, IV. 2.117), and some in its southerly part known as Uśīnara (IV. 2.118), while others were located outside Vāhīka towards the west (the present North-West Frontier Province).

The *sūtras* mention the following towns which naturally figure in them as being the most important in those days.

1. *Kāpiśī* (IV. 2.99). It was a town known for its wine *Kāpiśāyana* as already stated. According to Pliny Kāpiśī was destroyed by the Achaemenian emperor Cyrus (Kurush) in the sixth century B. C. It is identified with modern Begram, about 50 miles north of Kābul on the ground of a Kharoshṭhī inscription found there naming the city (Sten Konow, *Ep. Ind.*, Vol. XXII (1933), p. 11).

2. *Sauvāstava* (IV. 2 77) capital in the valley of the Suvāstu or Swat.

3. *Varaṇā* (IV. 2.82). It may be identified with the place called Aornos by the Greeks as a fort in the country of the Assakenoi (*Āśvakāyanas*). It may correspond to modern Ūṇa, pronounced Ūṇra in Pashtu, situated a few miles west of the Indus, as pointed out by Sir Aurel Stein who gave its conjectural restoration as *Avarṇa*. It really corresponds to Varaṇā mentioned by Pāṇini (*Arch. Survey Memoir.*, No. 42, pp. 89-90).

4. *Vārṇava* (IV. 2.77; IV. 2.103). It was so called from its situation in the Varṇu or Bannu valley.

5. *Śalātura* (IV. 3.94), modern Lahur situated at a distance of four miles from Ohind on the right bank of the Indus, in the northern angle of the junction of the Kabul river, identified as the birthplace of Pāṇini.

6. *Tūdi* (IV. 3.94), not identified.

7. *Varmatī* (IV. 3.94), Bimran (Masson, *Ariana Antiqua*, p. 69), or possibly Bamian.

8. *Kūchavāra* (IV. 3.94); it was Kūchā, also called Kūchār, the old name of Turkestan appearing in a Sanskrit manuscript and inscriptions from that region (Lüders, *Zur Geschichte und Geographie Ostturkestans*, p. 246). Varāhamihira mentions the Kūchikas amongst the people of the north.

9. Takshaśilā (IV. 3.93); Pāṇini applies the term *Tākshaśila* to those whose ancestors (*abhijana*) lived at Takshaśilā, Takshaśilā existed in all its glory at the time of Alexander's invasion and is described by the Greek writers as "a great and flourishing city, the greatest, indeed, of all the cities which lay between the Indus and the Hydaspes" (*Alexander's Invasion*, p. 92).

10. *Śārkara* (IV. 2.83), modern Sukkur in Sind on the Indus opposite Rori. The *Mārkaṇḍeya Purāṇa* knows of a western people called Śarkaraḥ (Pargiter, *Mārk. P.*, p. 373).

11. *Sāṅkala* (IV. 2.75) probably the same as the town Sangala, the capital of the republican peoples called Kaṭhoi (Kaṭhas) by the Greeks, which was strongly fortified; modern Sāngalāwālā Ṭībā in Jhang district (*Alexander's Invasion*, p. 115).

12. *Kāstīra* (VI. 1. 155), mentioned as a Vāhīka city by Patañjali.

13. *Ajastunda* (VI. 1.155), not identified.

14. *Chihaṇakantham* (VI.2.125), a town in the Uśīnara country where the word *kanthā* was a popular ending.

15. *Arishṭapura* (VI.2.100), same as Ariṭṭhapura, a city of Sivi kingdom referred to in Buddhist literature.

16. *Gauḍapura* (VI.2.100), Gauḍa, the well-known town in Maldah district in Bengal.

17. *Kapisthala* (VIII.3.91), modern Kaithal in Karnal district.

18. *Katri* (IV.2.95).

19. *Hāstinapura* (VI.2.101), same as Hastinapur on the Gaṅgā in Meerut district.

20. *Phalakapura* (VI.2.101), probably Phillaur in Jullundhur district.

21. *Mārdeyapura*, (VI.2.101), probably Maṇḍāwar in Bijnaur district.

22. *Paladī* (IV.2.110).

23. *Roṇī* (IV.2.78), probably Roḍi in Hissar district.

24. *Sāṅkāśya* (IV.2.80), modern Sankissā, situated on the north bank of the river Ikshumatī in Farrukhabad district. The Sāṅkāśyādi group also includes Kāmpilya, modern Kampil in Kaimganj Tehsil of Farrukhabad.

25. *Asandīvat* (VIII.2.12; IV.2.86), name of the royal city of Janamejaya Pārīkshita, in which the horse for his famons sacrifice was bound (*Vedic Index*, I.72); the *Kāśikā* equates it with Ahisthala.

26. *Śikhāvala* (IV.2.89), name of a *nagara* according to the *Kāśikā*; probably Sihawal on the left bank of the Son in Rewa State. Pāṇini again refers to Śikhāvala as a proper name (*Danta-Śikhāt saṁjñāyām* (V.2.113).

27. *Mahānagara* and *Navanagara* (VI. 2. 89), names of two eastern towns; the former may be identified with Mahāsthāna and the latter with Navadvīpa, both ancient towns in Puṇḍra and Vaṅga, i.e. North and West Bengal.

TOWNS IN THE GAṆAS—The *gaṇas* mention the names of about 500 towns. Of these the more famous are noticed here, while a list is given in an Appendix :

1. *Saunetra*, modern Sunet in Ludhiana district, three miles south west of Ludhiana town, with a large mound and other ruins indicative of an old city; here were found Yaudheya, Āgreya and other coins of the pre-Christian period (Cunningham, *ASR*, Vol. XIV., p. 65; Pāṇini *Saṅkalādi-gaṇa*).

2. *Sairīshaka* (IV. 2. 80); same as Sirsā, headquarters of a subdivision of the same name in Hissar district, and situated on the north side of a dry bed of the Ghaggar, having considerable ancient ruins.

3. *Taushāyaṇa* (*Pakshādi-gaṇa*, IV. 2. 80); modern Ṭohānā, a place of historical and archaeological interest in the Fatahabad Tehsil of Hissar district.

4. *Śrāvastī* (IV.2.97).

5. *Vārāṇasī* (IV.2.97).

6. *Kauśāmbī* (IV.2.97).

7. *Pāvā* (IV.2.97), probably Pāvā of the Pāli texts, capital of the Malla country.

8. *Saubhūta* (IV. 2. 75), usually identified with the kingdom of the Sophytes mentioned by the Greek writers (M'Crindle, *Alexander*, p. 280). The place is especially noted by the Greeks for a ferocious breed of dogs whose fame spread to Greece even before Alexander's time (*ibid.*, p. 364). The *Rāmāyaṇa* also refers to similar dogs bred in the Kekaya country of the Salt Range. It describes them as bred in the royal kennels (*antaḥpuraiti-saṁvṛiddhān*), strong like tigers (*vyāghra-vīrya-balopamān*), big in size (*mahā-kāyān*) and with big teeth (*mahādaṁshṭrān*, *Rāmāyaṇa*, II. 70.20). It was probably this breed of dogs that was referred to by Pāṇini as *kauleyaka* (IV. 2. 96). Saubhūta was thus a part of Kekaya in the Salt Range.

The *Kāśikā* gives the following examples of towns with the ending *nagara*: Nāndīnagara, Kāntinagara in the north (*udīchām*); Suhmanagara and Puṇḍranagara (the capitals of Suhma and Puṇḍra provinces in eastern India, VI.2.89); Pāṭaliputra and Ekachakrā (VII.3.14; IV.2.123 in the east); Madranagara (in the north, VII.3.34); and Dakshingara (in the country of Pāṇini's kinsmen, a citizen of which was called Dākshinagarīya, IV.2.142); Māhakinagara (IV.2.142).

With reference to Pāṭaliputra it is interesting to note that it was a vast metropolis with two divisions which the *Kāśikā* records as Pūrva-Pāṭaliputra (eastern, on the Ganges) and Apara-Pāṭaliputra (western, on the Son, VII.3.14). A citizen of Pāṭaliputra was called Pāṭaliputraka (*Ropadhetoḥ Prāchām*, IV.2.123).

That ancient India possessed a large number of flourishing centres of population in the form of cities or towns is also attested to by Greek writers. According to them the Panjab was full of towns, centres of industry and economic prosperity. Many of these figured as forts or centres of defence such as the famous town of Massage (Maśakāvatī) or Aornos (Varaṇā) in the country of the Aśvakas. The free clan called the Glaukanikoi (identical

with the Glauchukāyanakas of the *Kāśikā* on Pāṇini IV.3.99) whose country lay in the fertile and populous regions lying in the south of Kāśmīr (the Bhimber and Rajauri districts) between the upper courses of the Jhelum and the Chenab and the Ravi, had as many as thirty-seven cities, the smallest of which contained not fewer than 5,000 inhabitants, while many contained upwards of 10,000. There were also a great many villages which were not less populous than the towns (M'Crindle, *Alexander*, p. 112). Strabo affirms that in the territories of the nine nations situated between the Jhelum and the Beas, such as the Malloi, Oxydrakai and others, there were as many as 500 cities (*Ibid*, p. 112). Megasthenes makes the following general statement on the cities of Mauryan India: "Of their cities it is said that the number is so great that it cannot be stated with precision" (M'Crindle's *Megasthenes and Arrian*, p. 209). The above accounts of Greek historians do not seem to suffer exaggeration as only in the lists attached to the two *sūtras* IV.2.75 and IV.2.80 we have about 500 names, and these may be futher augmented if we add the testimony of the other *gaṇas*, as those headed by Suvāstu (IV.2.77), Varaṇa (IV.2.82), Madhu (IV.2.86), Utkara (IV.2.90), Naḍa (IV 2.91), Kattri (IV.2.95), Nadī (IV.2.97), Kāśi (IV.2.116), Dhūma (IV.2.127), Karkī (VI 2.87), Chihaṇa (VI.2.125), etc. This gives us a substantial list of about 750 town names, a case of curious coincidence with Greek evidence. Probably both Pāṇini and the Greek geographers depended on a common source or tradition. The grammatical literature is now a valuable source of information regarding the old and forgotten cities of India. This literature like Yuan Chwang's *Travels* has preserved land-marks in the light of which archaeological old sites may be verified. It may be further noted that certain names of tribes and *gotras* as recorded in the *gaṇas* (cf. Aśvādi, IV.1.110) point to places with which they were connected.

CHAPTER III

SOCIAL LIFE

SECTION 1. CASTE

The *Ashṭādhyāyī* is full of interesting details regarding the social life, manners and customs of its times. Pāṇini, as was have seen, was acquainted with a large part of India including Gandhāra, Vāhīka, Sindhu, Sauvīra, and the Prāchya country or eastern India. His master-mind did not fail to observe minutely the characteristics of social and economic life in these different regions.

Society in his time was based on Varṇāśramadharma, i.e. on Castes and Āśramas or stages into which life was divided.

Pāṇini twice uses the Vedic term *Varṇa* for caste (*Dharma-śīla-varṇāchcha*, V.2.132; VI.3.84) which is more often referred to by the specific term *Jāti* adopted in later legal texts (II.1.63; VI.3.41).

The term *Jāti* seems to have a more comprehensive sense so as to include both *gotra* and *charaṇa* indicative of natural and cultural lineage as implied in *sūtra* II.1.63 (*katara-katamau jāti-paripraśne*). Patañjali explains *jāti* in this extended sense (*gotraṁ cha charaṇaiḥ saha*, IV.1.63), citing as its examples the Kaṭha and Kalāpa *charaṇas* (cf. also *sūtra* V.3.93). Evidently the *gotras* and *charaṇas* were fast developing their separate entity as *jātis*.

BRĀHMAṆA. The Brāhmaṇas formed the highest caste. There were four principal castes which Kātyāyana mentions as *Chāturvarṇya* (V.1.124). These were to be mentioned in their order of status, as pointed out definitely by Kātyāyana in a *vārttika* on Pāṇini II.2.34 (*varṇānām ānupūrvyeṇa pūrvanipātaḥ*), as Brāhmaṇa-Kshattriya-Viṭ-

Śūdraḥ (*Bhāshya*, I.436). Thus the Brāhmaṇa was the highest caste.

Pāṇini uses the Vedic term Brahman (V.1.7) and also Brāhmaṇa for the caste (*Brāhmo' jātau*, VI. 4. 171). He seems to find a distinction between them taking the former in a cultural reference as shown in the derivative *brahmaṇya* (*Brahmaṇe hitaṁ*) to indicate what appertains to the spiritual welfare of a Brāhmaṇa (*Brāhmaṇebhyo hitaṁ*, *Bhāshya*, V.1.7; II.339), and reserving the term Brāhmaṇa for the caste based on birth (son of a Brahman). This point is also explained by Patañjali stating that 'although the two terms Brahman and Brāhmaṇa are synonymous (*samān-ārthau etau......Brahman śabdo Brāhmaṇa-śabdaścha*, II.339), yet the affix *yat* is added only to Brahman to have the form *brahmaṇya*.

Pāṇini in a *sūtra* V.1.124 refers to the *bhāva* (nature) and *karma* (conduct) which should characterise a Brāhmaṇa (*Guṇavachana-Brāhmaṇādibhyaḥ karmaṇi cha*). These are indicated in the derivative expression *Brāhmaṇya*. Kātyāyana applies this rule to the four castes collectively to indicate the norm and the duties for which the system stands.

Provincial Distinctions amongst Brāhmaṇas (*JĀNAPADAKHYĀ*). Pāṇini knows of the practice of the Brāhmaṇas being named after the localities (*janapada*) to which they belonged by birth (V. 4. 104, *Brahmaṇo jānapadākhyāyām*), of which the *Kāśikā* cites the following examples: *Avanti-Brahmaḥ* and *Surāshṭra-Brahmaḥ*, i.e. a Brāhmaṇa of Avanti *janapada*, (modern Malwa), and a Brāhmaṇa of Surāshṭra or Kāthiawar. Such names are the precursors of the later terms like Kānyakubja, Sārasvata, Mahārāshṭra and Gurjara Brāhmaṇas.

A degraded Brāhmaṇa was called *ku-Brahmaḥ* (V.4.105) while a Brāhmaṇa pre-eminent in his duties (*dharma*) *mahā-Brahmaḥ* (V.4.105). The Pāli texts take Mahā-Brahmā to mean a super-Brāhmaṇa, one with realised soul. The *Mahānārada-kassapa Jātaka* speaks of Bodhisattva Nārada

as being the Mahā-Brahmā (Great Brahmā) at a particular epoch (*Jāt.* VI.242). The *Mātaṅga Jātaka* explicitly refers to the superior position of a Mahā-Brahmā (*Jāt.* IV. 377 ; cf. also No. 254).

KSHATRIYA. Pāṇini mentions the Kshatriya caste in connection with *gotras*, *janapadas* and *saṅghas*. For example the Kuru *gotra* occurred both amongst Brāhmaṇas (IV. 1. 151) and Kshatriyas (IV. 1.172). If the father was a Brāhmaṇa, he and his young (*yuvan*) son were both called Kauravya, but if a Kshatriya they would be Kauravya and Kauravyāyaṇi (II. 4. 58, *Kāśikā*). Andhaka and Vṛishṇi were Kshatriya *gotras*. As to Kshatriyas associated with the *janapadas*, they as original founders gave their name to the region where they settled down (*Janapada-śabdāt kshatriyād añ*, IV. 1.168), the ruling families being designated as *janapadins* (IV. 3. 100); e. g. Pañchāla country named after the Pañchāla Kshatriyas; similarly Dardistan from Darads, Johiyāwār (Bahawalpur) from Yaudheyas, Mālva (in Ferozpur-Ludhiana) from ancient Mālavas (now called Malavais). Pāṇini specially mentions the Vāhika *saṅghas* (V. 3.114), some dominated by Brāhmaṇas as ruling caste (Gopālavas), others by Rājanyas, and called Rājanyaka (IV. 2.53), most likely referring to the Rāṇas of the Hill-States. The majority were Kshatriya *saṅghas*, as Kshudrakas, Malavas (V. 3.114, *Kāśikā*), Vṛikas (V. 3.115), Yaudheyas (V. 3.187). Distinguished Kshatriya heroes had become objects of religious *bhakti* (IV. 3.99) before Pāṇini's time, referring to the emergence of a popular cult of hero-worship.

RĀJANYA—In the Saṁhitās *Rājanya* is a synonymous term with Kshatriya. Pāṇini has retained the old sense of the word in *sūtra* IV. 2.39, whereas he has used it in a new constitutional significance in *sūtra* VI. 2. 34 (*Rājanya-bahuvachana-dvandve Andhaka-Vṛishṇishu*), where the *Kāśikā* defines *rāajnya* as a member of such families in a Kshatriya tribe as were consecrated to rulership (*abhishikta-vaṁśya kshatriya*).

VAIŚYA. The Vaiśyas were given the title *arya* to indicate their social status (*Aryaḥ svāmi-vaiśyayoḥ*, III. 1.103).

ŚŪDRA—Pāṇini refers to some Śūdras living within the pale of the Aryan society (*aniravasita*, II.4.10), implying that there were other Śūdras, probably aboriginal peoples, who were yet to be assimilated in the Aryan society.

Patañjali makes clear the social status of the Śūdras in his time. Firstly, there were Śūdras who were not excluded from Āryāvarta but were living within its social system. Secondly, there was another class of Śūdras who were living outside Āryāvarta and its society. He cites as examples (1) Kishkindha-Gabdikam (2) Śaka-Yavanam and (3) Saurya-Krauñcham. Of these Kishkindhā may be identified with Pāli Khukhundo in Gorakhpore, Gabdikā with the Gaddis of Chambā, who were deemed as living outside the limits of Āryāvarta, Saurya with Soreyya or Soron in Etah district and Krauñcha with the later Krauñcha-dvāra somewhere in Garhwwal. The Śakas and the Yavanas who are termed Śūdras were not yet parts of the Aryan society and were outside Āryāvarta in Patañjali's time. The Aryan society was at pains to repel the invasion of the Yavanas (Greeks under the leadership of Demetrius and Menander) and this hostility must have emphasized the cleavage between them. The Śakas geographically were still living outside the borders of India in the second century B. C. But in the first century B. C. we find Śaka settlements springing up at Takshaśilā and Ujjayinī.

Thirdly, there were Śūdras who had separate settlements of their own within the Aryan colonies (*ārya-nivāsa*), such as a *grāma* (village), a *ghosha* (cattle ranch), a *nagara* (town) or a *saṁvāha* (caravan camp). Examples of such Śūdras are Mṛitapas (undertakers), Chāṇḍālas, who were of the lowest grades. Fourthly there was another class of Śūdras who were entrusted with some of the work connected with *yajñas* or sacrifices as carpenters (*takshā*), metal-workers (*ayaskāra*) washermen (*rajaka*) and weavers

(*tantuvāya*). There were also Śūdra untouchables who had to take their food in their own utensils and not in those of the household, while there were others who were not subject to this restriction as being more closely associated with the household (*yair-bhukte pātraṁ saṁskārena śudhyati*, II.4.10 ; I.475).

ĀRYA AND DĀSA. Pāṇini applies the epithet Ārya to a Brāhmaṇa to denote the king's chief-counsellor (*Ārya-Brāhmaṇa*) and to Kumāra to denote the Crown-Prince (*Ārya-Kumāra*, VI.2.58).

The use of the term *Ārya-kṛita* in *sūtra*, IV.1.30, (feminine *Āryakṛitī*, terms which were also Vedic words) had a specific meaning in current speech (*saṁjñā*). The meaning of these terms is best explained by Kauṭilya, taking *Ārya* to mean a free man as opposed to *Dāsa* who had lost his freedom, e. g. 'The offspring of a man who has sold himself off as a slave shall be an Ārya ; on paying the value (for which one is enslaved) a slave shall regain his Āryahood' (*Āryatva*, *Āryabhāva*, *Artha*. Text, III.13). The regulations contained in that chapter aim at humanising the institution of *dāsya* and restoring to the *dāsas* the privileges of an *Ārya* or 'free citizen.' The linguistic form *Āryakṛita* (i.e. *Ārya* with the root *kṛi*) is also implied in Kauṭilya's expression, *Dāsamanurūpeṇa nishkrayeṇ = Āryamakurvato dvādaśa paṇo daṇḍaḥ*, i.e. '12 *paṇas* is the fine for not making a slave a free man (*Ārya*) even after receiving the proper ransom.' The feminine form *Argakṛitī* would denote the woman similarly made free, or her daughter who had obtained the status of an '*adāsa*' or '*Ārya*' either through payment of ransom or birth. (Cf. *Artha*. Text, III. 13, *Mātā bhrātā bhaginī chāsyā adāsāḥ syuḥ*). Pāṇini uses *dāsī-bhāra* in *sūtra* VI.2.42, as a word with specific meaning (*saṁjñā*). The *Kāśikā* explains it as *dāsyā bhāraḥ*, i.e. the burden of a *dāsī* to be borne (by her master). Kauṭilya states, 'If a pregnant female slave is sold or pledged without any provision for her confinement, her master is punishable.' (*Artha*, Trans. p. 207). This pro-

bably explains the nature of the burden implied in the term *dāsībhāra* of Pāṇini.

MIXED CASTES Pāṇini uses the terms *anuloma* and *pratiloma* (V,4.75) which are well-known in later Smṛiti texts. The *Ashṭādhyāyī* mentions the names *Ambashṭha* and *Ambashṭha* (VIII. 3.97). These were a republican people in the Panjab. They are taken to be a mixed caste in the Smṛitis, as the offspring of a Brāhmaṇa husband and a Vaiśya wife. Pāṇini also knows of a class of people called *udakahāra* (or *udabhāra*, VI.3.60), 'drawer of water,' who may be taken as a caste (Hindi *kahāra*). It may be noted that Kātyāyana knows of a special caste (*jāti*) called *mahāśūdra*, with its female *mahāśūdrī*. The *Kaśikā* explains the term to mean the Ābhīras regarded as higher Śūdras.

CH. III, SECTION 2. ĀŚRAMAS

Pāṇini knows of (1) Brahmachārin (V.2.134), (2) Gṛihapati (IV.4.90), (3) Parivrājaka (VI.1.154), and (4) Bhikshu (III.2.168). The system of four *āśramas* is called by Kātyāyana *chāturāśramya* (V.1.124).

BRAHMACHĀRIN—Brahmacharya denoted the condition or life of a Brahmachārin or religious student. The institution of *Brahmacharya* was known to Pāṇini in its full development. He refers to educational institutions known as *Charaṇa* or Vedic schools devoted to the study of some major recension (*āmnāya*) of the Vedas together with its accessory and subordinate literature (IV.3.126). The Brahmachārins congregated for study at a *Charaṇa* which was run under the direction of one great teacher or Vedic exponent. From the manner of Pāṇini's reference to this organisation it appears that the Brahmachārins looked upon their *Charaṇa* as their *alma mater*, and were attached to it by permanent bonds of common fellowship with other members of the same school, all distinguished as *sabrahmachārins* (*Charaṇe Brahmachāriṇi*, VI.3.86).

The growing distinction of the religious students is indicated by the emergence of a new word *Varṇī*, unknown in the Saṁhitā and Brāhmaṇa literature. Pāṇini explains it as a synonym for Brahmachārin (*Varṇāt Brahmachāriṇi*, V.2.134). According to the *Kāśikā* the students of only the three upper classes (*traivarṇika*) were called *Varṇī*.

The preceptor or *Āchārya* initiated the young student. Every pupil became attached to his preceptor by a formal ceremony which Pāṇini calls *upanayana* and *āchārya-karaṇa* (1.3.36). The *Kāśikā* explains it as follows.

'*Āchārya-karaṇa* is a ceremony (*kriyā*) by which the teacher brings the pupil (*māṇavaka*) into close relationship

with him (*ātmasamīpaṁ* (*prāpayati*). By means of this ceremony the *upanetā* (performer of the *upanayana* ceremony) formally becomes the *āchārya*'.

Pāṇini uses the two terms *māṇava* and *antevāsin* for the pupils (VI.2.69). The former were also called *daṇḍa-māṇavas* (IV.3.130), probably from the staff they bore. The *māṇava* seems to have been a novice, as seen from the term *bāla* applied to him in the *Mātaṅga Jātaka*, which also calls him *daṇḍa-māṇava* (IV.379,587).

Pāṇini mentions a *daṇḍa* made of *palāśa* wood (*Butea frondosa*) as *āshāḍha* (V.1.110).

PERIOD—There is a general rule by which the student was to be named after the special circumstances of study (*Tadasya Brahmacharyam*, V.1.94). The maximum period of studentship is stated by Kātyāyana to be 48 years, the student concerned being called *ashṭā-chatvāriṁśaka* (also *ashṭāchatvāriṁśī*). The same *vārttika* refers to *gaudānika* whose period of study ended by the performance of the *godāna* or hair-cutting ceremony (cf. *Manu*, II.65).

Besides the studentship proper for fixed periods, there were occasional studentships for shorter terms; e.g., students for half a month (*ardhamāsika*), a month (*māsika*), or a year (*sāṁvatsarika*), as instanced by the *Kāśikā*.

Kātyāyana also introduces a new feature, viz. naming occasional students after their subjects or vows (special disciplines adopted by them), e g. *Māhānāmnika*, one studying the Mahānāmnī hymn (a kind of Sāman, cf. *Gobhila Gṛihyasūtra*, quoting *Rauruki Brāhmaṇa*); *Ādityavratika*, a student who had consecrated himself to the vow of mastering the *Āditya Sāma* (cf. *Jaiminīya Upanishad Brāhmaṇa*), *Avāntara dīkshī* (one who enters upon the vow of studentship for an intermediate period), and *Tilavratī* (probably the vow of studentship to last through life, such as that of the *naishṭhika Brahmachārī*).

The occasional studentships for shorter terms or study of special texts or observance of particular vows points to a new feature in the educational system. These gave to seekers after truth and advanced knowledge, opportunities for specialisation to realise their desires towards self-fulfilment both through the study of texts and prescribed practices. This practice of occasional studentship is also known to the *Upanishads*.

SNATAKA—The student who completes his study is called *snātaka*. The *Gaṇasūtra* holds it as completion of Vedic study (*Veda-samāpti*, V.4.29). The more proficient *snātaka* was singled out as *nishṇāta* (with his study fully completed). This term for proficiency was later on applied to proficiency in any study or craft, *e.g.* *nishṇātaḥ kaṭakaraṇe*, skilled (*kuśala*) in the art of mat-making (VIII.3.89). The epithet *sragvī* (V.2.121, wearer of garland) appears also to have been applied to a *snātaka*. The *srak* was a sign of graduation and the *Gṛihya Sūtras* differentiate it from the ordinary garland for decoration called *mālā* (V.M. Apte, *Social and Religious Life in the Gṛihya Sūtras*, p. 107). Manu also applies the term *sragvī* to a *snātaka* (*Manu Smṛti*, III.3). A student who cuts short his studentship and enters upon the householder's life is condemned by Pāṇini as *khaṭvārūḍha* ('taking to the luxury of sleeping on a cot,' not permitted to a Brahmachāri, II.1.26).

HOUSE-HOLDER—*Gṛihapati* is the regular name, from the *Ṛigveda* onwards, for the householder as master of the house. Pāṇini refers to him in connection with the Fire kindled at the time of marriage with whose worship commenced his life as a householder (*Gṛihapatinā saṁyukte ñyaḥ*, IV.4.90). The *Kāśikā* treats *Gārhpatya* as the technical term for the House-hold Fire.

His wife was technically called *Patnī* derived from the term *Pati* to whom she was wedded at the Agnihotra ceremony (*Patyur-no yajñasaṁyoge*, IV.1.33). The two together tended through life the sacred Family Fire,

(*Gārhapatya Agni*) essential for the performance of domestic ceremonies. As stated by Manu (III.67) the married couple installed and tended the *vaivāhika agni* for the *gṛihya* rites. They were also called *āvasathika* from their dwelling in an *āvasatha* (IV.4.74), from which their Fire was named *Āvasathya*.

Happy family life is envisaged in such terms as *suprajas* (V.4.122), *bahupraja* (V.4.123), *putrapautrīṇa*, 'having healthy sons, a big family, and enjoying generations of sons and grandsons' (*putrapautram anubhavati*, V.2.10).

The head of the family was called *Vaṁśya* (IV.1.163) or *Vṛiddha* (I.2.75), i.e. Patriarch, and its other members *Yuvan* (Juniors). Pāṇini teaches different suffixes to distinguish the head of the family from its junior members. This distinction between the patriarch and his descendants was expressed by appropriate suffixes, e.g. Gārgya as patriarch, and his juniors as Gārgyāyaṇa. The family or the household was the centre of social life supporting its different limbs. These distinctive titles were of real practical value; e.g. a Gārgya as patriarch represented his family in the social assemblies, whereas the junior members called Gārgyāyaṇa would be given the nomenclature Gārgya only when they were admitted to the headship of the family in the absence of Gārgya the elder.

The duties of the householder were to entertain the guests (*atithi*), to make suitable gifts on occasions (*vyaya* I.3.36; *upayoga*, I.3.32), to perform the family sacrifices (*yajñas*) and offer due worship to the ancestors (*śrāddha*, IV.3.12).

The economic pursuits of a householder are also indicated. He might be a priest (*ṛitvik*), merchant (*vāṇija*, VI.2.13), an agriculturist (*krishīvala*, V.2.112), craftsman (*śilpī*), a labourer earning wages (*bhṛitaka karmakara*, III.2.22), and the like. Rich householders are referred to as possessing hoarded wealth, amounting to 100 (*naishka-śatika*) and 1000 *nishkas* (*naishka-sahasrika*, V.2.119).

The householder's life began with marriage. Its ceremony was performed round the Fire as witness. Pāṇini refers to marriage by the word *upayamana* (I.2.16), which he explains as *sva-karaṇa*, *i. e.* 'the bridegroom making the bride his own' (I.3.56). The marriage ceremony was solemnised by *pāṇigrahaṇa*. 'the holding by the bridegroom of the bride's hand.' Pāṇini uses two other terms for it, *haste-kṛitya* and *pāṇau-kṛitya*. This holding of the hand was a symbol of *sva-karaṇa*, i.e. formal transfer of the father's dominion over the girl to the husband. We may cite Manu's comment that this ceremony was observed for marriage within the same caste (III.43).

This formality was considered so important in marriage that Kātyāyana calls the legally wedded wife as *pāṇi-gṛihītī* (*vār.* on IV.1.52; *Bhāshya* II.221), whereas the girl married without proper ritual was marked out by the different term (*pāṇi-gṛihītā yasyā hi yathākathaṁchit pāṇir-gṛihyate*, II. 221).

SOCIAL EFFECT OF MARRIAGE—The legal effect of marriage is an important proposition in Hindu law. The term *sva-karaṇa* of Pāṇini is explained by Patañjali as 'making one's own what was not so previously' (*asvam yadā svaṁ karoti*, *Bhāshya*, I.3.56; I.284). According to Manu marriage meant the gift (*pradāna*) of a girl by her parents by which they transferred their dominion over her to the bridegroom (*pradānaṁ svāmya-kāraṇam*, V.151).

According to Pāṇini, the bride whom the husband marries should be a *kumārī*, which is explained by Patañjali as *apūrva-pati*, *i. e.* one who is not previously married (*Kaumārāpūrva-vachane*, IV.2.13). The virgin after marriage was honoured by the title *kaumārī bhāryā*, and her husband *kaumāra-pati*. It is the same as the epithet *ananyapūrvikā*

applied by Yājñavalkya (I.52). The husband and his wife after marriage had to perform jointly the sacrificial rites, from which the wife derived the title of honour as *patnī* (*patyur-noyajña-sa ṁyoge*, IV. 1. 53). It was denied to a woman not properly married. The social status of the husband devolved on his wife, as implied in Pāṇini's *sūtra* (*Puṁyogād ākhyāyām*, IV. 1. 48), *i. e.* a designation derived from her husband; *e. g. mahāmātrī* (ministrix), wife of a *mahāmātra*, a high government official, and *gaṇakī*, wife of a *gaṇaka* (accountant). Pāṇini also speaks of *āchāryānī* as the wife of an *āchārya* (IV.1.49).

EXOGAMY—Marriage must have been contracted outside the *gotra*. Pāṇini in one place refers to the formation of compound words showing two *gotras* united in martial relationship (*maithunikā*) (IV. 3. 125). Patañjali instances (1) *Atri-Bharadvājikā*, (2) *Vasishṭha-Kaśyapikā*, (3) *Bhṛigu-Aṅgirasikā*, (4) *Kutsa-Kuśikikā*, and (5) *Garga-Bhārgavikā*, *i.e.* marriages contracted between two different *gotras* jointly designated (II. 4. 62; I. 492). Most of these *gotra* names occur in Pāṇini's *sūtras*.

Pāṇini refers to Woman in all the aspects of her life, as a girl, a maiden, a wife, a mother, a friend and a teacher. We obtain glimpses of her life inside the household as its virtual mistress in her capacity of *patnī*, and in the larger public sphere of education (*charaṇas*) and citizenship (*janapadas*, IV. 1.175). As examples may be cited (1) *Kaṭhī*, a female member of the Vedic Kaṭha *śākhā*, and (2) *Yaudheyī*, a female citizen of the Yaudheya republic (*saṅgha*). The woman also figures as an ascetic as indicated in the title *kumāra-śramaṇā* (II. 1.70), *i. e.* an unmarried female mendicant, showing that women were also eligible for the ascetic order. It may be assumed that such women ascetics moved about freely in public as homeless wanderers (*pravrajitā*, *Gaṇa-pāṭha* II. 1.70). A veil of privacy was, however, thrown on the ladies of the royal household who were described as *asūryaṁ paśyā* (III. 2.36), 'screened from the sun's gaze' and kept in their harems (cf. *Kāśikā*, *rāja-dārāḥ*).

MAIDEN—In the first part of her life (*vayasi prathame* IV. 1.20) she was called *kumārī*, *kiśorī* and *kanyā*. Some women remained unmarried through life (*kumāryāṁ vayasi*, VI 2.95) and were still called *kumārī* even in old age, e. g. *vriddha-kumārī*, *jarat-kumārī*.

There were exceptional cases of unmarried girls becoming mothers whence their offspring was called *kānīna* (IV. 1. 116), 'issue of a *kanyā* not formally married.' Manu counts *kānīna* as one of the twelve kinds of sons (*Manu*, IX, 172 ; cf. *Yāj*. II. 129). Patañjali makes the objection that *kanyā*, a virgin, and *kānīna*, her son, cannot go together. He holds that the term *kanyā* continued to be applied to a girl before her *legal* marriage (*puṁs-ābhisambandha-pūrvaka saṁprayoga*, II. 257).

A maiden of marriageable age was known as *varyā*, i. e. one to be wooed freely without restriction (*anirodha*, III. 101). When she became engaged, she was called *vṛityā*. No doubt parents exercised their choice in fixing proper matches, but girls of mature age were free to choose their husbands and were described as *patiṁvarā* (III. 2. 46).

WIFE—The bride is called *janī* and the maids in attendance who conducted her to the prospective husband *janyāḥ*. The newly wedded bride was called by the Vedic name *sumaṅgalī*, which Pāṇini cites as current in later Sanskrit also (*saṁjñāchhandasoḥ*, IV. 1.30). The term *Jāyā* was used for the wife with reference to the ideal of motherhood, whereas *Patnī* as stated above denoted her religious function (IV. 1.33). She is also called *Jāni* in the examples *yuvajāni* and *vṛiddha-jāni* (V. 4.134). The term *Pativatnī* was used to indicate that so long as her husband lived she was the mistress of the household (IV. 1.32). Reference to polygamy can be traced in the word *sapatnī* (IV. 1.35).

Pāṇini also refers to *mantras* repeated for captivating the hearts of lovers which were known as *hṛidya* (*hṛidya-bandhana*, explained by *Kāśikā*, as *vaśīkaraṇa mantra* IV. 4.96).

An elderly sister marrying later than her younger sister was called *didhishū* and her husband *didhishū-pati* (VI. 2.19 ; cf. *Vedic Index*, I. 307).

MOTHER—The practice of naming sons after their mothers found in the *Vaṁśa* lists was also known to Pāṇini. Sometimes the son is extolled for the virtues of his mother, *e. g.* *bhādramātura*, son of a noble mother (IV. 1.115) and *kalyāṇineya*, son of a beautiful mother (IV. 1.126). In case of doubtful parentage the son was named according to the mother's *gotra*, *e g*. *Gārgika*, son of Gārgī, a female descendant of the Garga *gotra* ; but such names after the mother involved social opprobrium (*kutsana*, IV. 1.147).

CIVIC STATUS OF WOMEN—Women were distinguished as members of larger associations than the family. They

were known by the *gotras* and the *janapadas* or States to which they belonged, *e.g.* *Avantī* (the lady of Avanti *Janapada*), Kuntī (of Kunti), Kurū (of Kuru) (IV. 1. 176); *Bhārgī* (of Bharga *Janapada*, a part of the Trigarta country), *Yaudheyī* (a woman of the well-known Yaudheya republic); and similarly *Pāñchālī*, *Vaidehī*, *Āṅgī*, *Vāṅgī*, *Māgadhī*, hailing from those Eastern *janapadas* implied in the *sūtra* (IV. 1. 178). The *Gaṇapāṭha* adds other names, such as Kārūshī, Kaikeyī, Kaśmīrī, Sālvī, Śaubhreyī, Śaukreyī, Bhāratī, Auśīnari, etc. It is also laid down that female names in the plural derived from *gotra* and *janapada* should be distinguished in their formation from those of the male members, and this distinction was brought out by retaining the female-denoting suffix, *e.g.* a bevy of women of Yaska *gotra* was named as *Yāskyaḥ* (II. 4. 63) and Aṅga women as *Āṅgyaḥ* (II.4.62). A peculiarity in the names of women in the eastern country was the addition of the suffix *āyana* (IV. 1. 17), *e.g.* a female descendant of the Garga *gotra* was called *Gārgyāyaṇī* in the east corresponding to modern Gargāin, a feature preserved specially in the Bhojapuri dialect.

Women also figured as students of Vedic schools (*charaṇas*, cf. *sūtra* IV, 1. 63 in which *jāti* includes both *gotra* and *charaṇa*), *e.g.* *Kaṭhī*, *Bahvṛchī*. Sometimes they were inresidents at the schools in what were called *chhātri-śālā* (VI. 2. 86).

Women also occupied the exalted position of teachers and were called *āchāryā* (IV. 1. 49, a counter-example of *āchāryāṇī*).

We have already seen that women sometimes devoted themselves totally to the pursuit of learning and religion as ascetics, and were called by the generic term *kumāra-śramaṇā*.

Women also pursued other cultural occupations. They took part in the popular sports of the times. Pāṇini

refers to the games of Eastern India (*Prāchya-krīḍā*, VI. 2. 74), *e.g.* *Śālabhañjikā* (the game of plucking the flowers of the Sāla trees in blossom); *Aśoka-pushpa-prachāyikā* (gathering of the flowers of the Aśoka trees in blossom), etc. The *Jātakas* also mention these sports as *uyyāna-kīḍikam* (IV. 376). Patañjali mentions *śāktīkī*, a woman warrior who specialised in the wielding of lance (IV. 4. 59 ; *Bhāshya*, IV. 1. 15 ; II. 209).

Women also paid attention to personal adornment and beauty (*bhūshaṇa* and *maṇḍana*, III. 2. 151). Mention is made of an ornament of the fore-head (*lalāṭikā*) and ear-rings (*karṇikā*, IV. 3. 65), and also to hair-dressing (*keśa-veśa*, IV. I. 42). The *lalāṭikā* is seen as an ornament on the forehead of the earliest Indian women in the sculptures of Bharhut (Cunn. *Bharhut*, plate XXIII).

CH. III, SECTION 5. SOCIAL FORMATIONS

These include in a descending order the following (1) *Janapada*, (2) *Varṇa*, (3) *Jāti*, (4) *Gotra*, (5) *Sapiṇḍa*, (6) *Sanābhi*, (7) *Jñāti*, (8) *Saṁyukta*, (9) *Kula*, (10) *Vaṁśa*, and (11) *Gṛihapati*.

Pāṇini is acquainted with a number of *Janapadas* or States. To start with, a wandering *Jana* which was a Kshatriya clan, settled down in a particular region (*Janapada*), which came to be named after it. In time, other peoples also came to settle in it, whence arose the conception of a common citizenship binding them to the *Janapada*. It marked the evolution from the racial (*Jana*) to the territorial (*Janapada*) basis of citizenship embracing a a variety of peoples. The citizens bound in loyalty to a common *Janapada* were called *Sajanapadas* (VI. 3. 85), nationals of the same State. The Vedic Bharata *Jana*, for instance, became settled in the region called Bharata, where were also settled later on other peoples giving rise to the territorial conception of citizenship replacing the clan. Thus it marked a great progress in political evolution.

The governing class of each *Janapada*, however, was distinguished from the rest of its citizens by the designation *Janapadins* (IV.3.100), or the citizens proper as an elect body or nucleus representing the original settlers.

A typical *Janapada* was peopled by members of the four principal castes and other mixed castes so that its population was heterogeneous.

VARṆA AND JĀTI—Pāṇini mentions members of the same caste or *Varṇa* as *savarṇa* (from *samāna varṇa*, VI. 3. 85).

However, the term *Jāti* is used more often for caste. In the early Vedic texts and even in the *Kātyāyana Śrauta*

Sūtra, it had only the sense of family (*Vedic Index*, Vol. I. 281).

In the *Ashṭādhyāyī* an individual member of a caste is designated as *bandhu* in relation to his *jāti* (*Jātyantāch-chha bandhuni*, V.4.9). 'The affix *chha* (*īya*) is added to a word ending in the word *jāti*, when it denotes a *bandhu*'. The examples are *Brāhmaṇa-jātīyaḥ*, *Kshatriya-jātīyaḥ*, *Vaiśya-jātīyaḥ*. The *Kāśikā* says that *bandhu* in the *sūtra* means an individual; the *jāti* or class is in itself an invisible entity which achieves concrete form only through its component parts or *bandhus*. The term *bandhu* implies relationship, thus pointing to the fact that the *jāti* had evolved out of the common bond of mutual kinship. The word *sabandhu* in *sūtra* VI. 3.85, indicates this idea of kinship, (*samāna-bandhutva*) uniting members of one caste.

SAGOTRA—Next to caste was *Gotra*. *Gotra* denoted the ancestral family from which its members traced their descent. Members belonging to the same *gotra* were called *sagotra* (VI. 3. 82). The *gotra* name of a person on the basis of his *gotra* must have been a matter of considerable practical importance. In the *Jātakas* we often find the *gotra* name of a person asked along with his personal name. This is shown by Pāṇini having prescribed elaborate rules for the formation of *gotra* names, *e.g.* Garga, father ; Gārgi, son ; Gārgya grandson ; Gārgyāyaṇa great-grandson.

SAPIṆḌA—In is important to note that the word *Sapiṇḍa* is peculiar to the *Sūtra* literature ; there is no trace of it either in the *Saṁhitās*, or the *Brāhmaṇas* and *Araṇyakas*. The *Dharmśāstra* works explain *Sapiṇḍa* as blood-relations upto the seventh degree on the father's and fifth on the mother's side (*Manu*, V. 60). Pāṇini refers to the *Sapiṇḍa* institution in the aphorism, *Vānyasmin sapiṇḍe sthaviratare jīvati* (IV. 1. 165), which states that a great-grandson was called *yuvan* when a more elderly *Sapiṇḍa*, *i.e.* either his uncle or grand-uncle was alive.

SANĀBHI—Sanābhi is equal to *samāna nābhi*, *i.e.* those connected with a common *nābhi* or umbilical cord (VI.3.85), thus bringing within its fold all the blood-relations of different degrees. In the *Ṛigveda* I.139.9, the seer Paruchchhepa says: our *nābhis* (umbilical cords) join us to Manu, Atri and Kaṇva of old (*Asmākaṁ teshu nābhayaḥ*). In *Manu*, *Sanābhya* is taken as *Sapiṇḍa* (cf. *Kullūka*, V.184).

JÑĀTI—*Jñāti* mentioned in *sūtra* VI.2.133 is explained by the *Kāśikā* as comprising 'all relations on the mother's and father's side' (*jñātayo mātṛi-pitṛi-sambandhino bāndhavāḥ*, VI.2.133). Pāṇini considers *jñāti* to be synonymous with *sva*, *i.e.* kinsmen or paternal relations (I.1.35).

SAMYUKTA—*Jñāti* and *Saṁyukta* occur in the same *sūtra* (VI.2.133), the latter formed a smaller social unit than the former. The *Kāśikā* says that the *saṁyuktas* included relations on the wife's side only, as brother-in-law and others (*saṁyuktāḥ strī-sambandhinaḥ śyālādayaḥ*), which means that the wife's *jñātis* were the *saṁyukta* relations of the husband. Among *saṁyuktas* Pāṇini himself mentions *śvaśura-śvaśrū*, i.e. father-in-law and mother-in-law (I.2.71), and *śvaśurya* or brother-in-law (IV.1.13).

*FAMILY** (*KULA*)—The family was considered to be the fundamental unit or nucleus of society in ancient India. Society was an aggregate of families, each comprising several members under the headship of the father, or in his absence the eldest brother, and as far as possible partaking of a common household. Pāṇini calls family a *kula* (IV.1.139; IV.2.96).

The word *kulīna* 'of eminent family,' (IV.1.139) indicated high descent. The epithet *mahākula* was indicative of a still higher family status. Pāṇini refers to the members of these distinguished families as *mahākulīna*, *māhākulīna* and *māhākula* (IV.1.141). On IV.1.139 the *Kāśikā* refers to a member of *śrotriya* Brāhmaṇas as *śrotriya-kulīna*. Manu points out that a *kula* could be improved

in its status by the following factors: (1) marriage, (2) study of the Vedas, and (3) performance of Vedic rites, (*Manu*, III 66 ; 184-186), to which the *Mahābhārata* echoing the same popular esteem for *mahākula* adds *tapa*, *dama*, *annadāna* and *samyag vritta* (Udyogaparva, 36.23-29).

On the other hand some families suffered in social status by their neglect of Vedic study or lapses in morals ; members of such degraded families were stigmatised as *dushkulīna* or *daushkuleya* (IV. 2. 142).

VAMŚA—*Vaṁśas* could be both natural and cultural in their character. The spiritual lineage is called by Pāṇini *Vidyā-sambandha*, and the natural *Yoni-sambandha* (IV. 3.77 ; VI. 3.23). The spiritual lineage is represented by a succession of teachers and pupils. The natural lineage is traced both on the father's and mother's side, as pointed out by Patañjali (IV. 1.147 ; II. 261).

It was the duty of the pupils to recite the succession-lists of the teachers of Schools to which they belonged. A few such spiritual genealogies are preserved in Vedic works.

Family pedigrees also seem to be carefully preserved by counting the number of its generations from the original founder. *Sūtra*, II. 1.19, *Saṁkhyā vaṁśyena*, states that a numeral may be prefixed to the name of an ancestor (*vaṁśya*) and the compound thus formed will indicate the number of generations descended from him. As an instance Patañjali cites *ekaviṁśati-Bhāradvājam*, meaning that there were twenty-one descendants in the line of Bhāradvāja (I. 499).

A second instance is *tripañchāśad-Gautamam* (Pat. I. 499 on II. 4.84), meaning that there were already counted fifty-three generations of the descendants of Gautamas. These numbers afford valuable chronological data for computing their time allowing 25 years to a generation. Thus the first Bhāradvāja should be dated to about five-hundred years earlier and the first Gautama to about thirteen hundred years earlier than the time when the two illustrations were

adopted. It may be noted as a striking resemblance that the *Bṛihadāraṇyaka Upanishad* also knows only of 57 generations of teachers. It may be surmised that perhaps this stock-example of fifty-three Gautamas dates from the time when the *Vaṁśa* lists were being compiled in the Brāhmaṇa period. We may also note that the Gautama family with which this example is connected was an important family famous for its learning as represented in its several descendants like Aruṇa, Uddālaka Āruṇi and his son Śvetaketu Āruṇeya in the Upanishads.

The *sūtra* IV. 1.63 mentions the two terms *Vaṁśya* and *Yuvā* which denoted the great-grandfather and the great-grandson respectively as being alive at the same time (*Jīvati tu vaṁśye yuvā*). As stated above, suffixes were added to indicate these distinctions, as in the series Garga-Gargi-Gārgya-Gārgyāyaṇa.

GṚIHAPATI—The smallest social formation was the *Gṛiha*, its master being called *Gṛihapati* (IV. 4.90), in whom vested the supreme authority of the family. Generally the father was the *grihapati*, but after him his eldest son. *Sūtra* IV. 1.164 (*Bhrātari cha jyāyasi*) points out that the younger brother was called *yuvā*, when he was under the guardianship of his elder brother as the head of the family.

The family system was called *gārhapata*, of which Pāṇini cites the example *Kuru-gārhapatam* (VI. 2.42), *i.e.* the family-system in the Kuru country, to which Kātyāyana adds another example, *viz. Vṛiji-gārhapatam*, the family-system in the Vṛiji country.

FAMILY RELATIONSHIPS—The sphere of relationships constituting the family is indicated by the following list from the *Ashṭādhyāyī* :—

Mātā, *Pitā* (I. 2.70); *Pitāmaha*; *Pitṛivya* (uncle, IV. 2.36); *Bhrātā Sodarya* (uterine brother, IV. 4.109); *Jyāyān Bhrātā* (IV. 1.164); *Svasā* (sister, I. 2.68); *Putra*, *Pautra* (V. 1.10); *Pitṛi-shvasā* (father's sister, VIII. 3.84), *Paitṛi-*

shvasaya (her son, IV. 1.132); *Mātṛi-shvasā* (mother's sister, VIII. 3.84) and her son *Mātṛishvaseya* (IV. 1.134); sister's son or *Svasrīya* (IV. 1.143); brother's son or *Bhrātṛivya* (IV. 1.144); *Mātāmaha* (mother's father, IV. 2.36); *Mātula* (mother's brother, IV. 2. 36) and *Mātulānī* (maternal uncle's wife, IV. 1.49).

The parents are called *Pitarau* by the *Ekaśesha* compound which drops out *mātā* (I. 2.70). Patañjali's illustration *Mātā-pitarau* on the *vārttika*, *Abhyarhitam* (II. 2.34; I.436) recalls Manu's view that the mother was entitled to greater esteem than the father (*Manu*, II 145). Pāṇini was probably of the same view as inferred from his mentioning *Mātāmaha* before *Pitāmaha* (IV. 2.36). In the *Ekaśesha* compounds like *Pitarau* (parents), *Bhrātarau* (brother and sister, I. 2.68), *Putrau* (son and daughter, I. 2.68), and *Śvaśurau* (parents-in-law, I. 2.71), it is always the word for the male that is retained and expresses the female also, which is probably indicative of his importance in a patriarchal society. The *sūtra* I. 2.67, *Pumān striyā* points to their relative positions. According to *sūtras* I 2.56 and 57 Pāṇini knowingly eschewed the discussion of *Pradhāna* (Principal) and *Upasarjana* (Subordinate) from the *Ashṭādhyāyī*. In his view the usage of society is the best guide in matters like defining the primary and secondary position of husband and wife, teacher and pupil, male and female, etc.

Pāṇini refers to a father with many children as *Bahuprajaḥ* (V. 4.123), and to a grandfather as *Putrapautrīṇa*, who lived to enjoy the affection of his sons and grandsons in an expanded family (*Putra-pautramanubhavati*, V. 2.10).

FRIEND—The domestic sphere of the home was extended in a wider social circle of friends. The *Jātakas* include *mitta* and *suhajja*, friends and acquaintances, in the gradation of relationships. (*māta-pitu-mitta-suhajja ñāti-vaggo*, *Jātaka* Vol. V, p. 132).

Pāṇini calls a friend *sakhi* (V. 1.126), or *mitra* (V. 4.150), and friendship *sakhyam* (*sakhyuḥ bhāvaḥ karma vā*, V. 1.126), or also *saṁgataṁ*, comradeship (III. 1.105). Pāṇini marks out a friend by his goodness of heart and the enemy by its wickedness (*Suhṛid-durhṛidau*, V. 4. 150). Friendship to last for a life-time is called *ajarya*. In the following interesting *sūtra* Pāṇini puts his seal of approval on the basic principle of friendship so often repeated in Sanskrit literature :

Sāptapadīnaṁ sakhyam, (V. 2. 22).

Friendship is called *sāptapadīna* because it is accomplished through "Seven Steps" (*sapta-pada*). In the *Atharvaveda*, Atharvā calls Varuṇa his *sapta-pada* friend, and Varuṇa pleased with the insight of Atharvā and his consequent fitness to keep the Priśni cow reciprocates the same sentiment (*Atharva*, V. 11. 9, 10). The *Mahābhārata* also repeats the conception of *sāpta-pada* friendship (Vanaparva, 260. 35 ; 297. 23). We find the full explanation of *sāptapada* in the *Saptapadī* ritual of marriage as given in the *Gṛihya Sūtras* where the bridegroom makes the bride his *saptapadī* friend[1] by repeating seven formulas beginning with *Ish* and *Ūrj*. The conception symbolised by the outer form of taking 'seven steps' appears to be very old, since the *Ṛigveda* also mentions Agni milking the *Ish* and the *Ūrj* for the *Saptapadī* (*Ṛig*. VIII. 72.16). Originally the *saptapadī* friendship was perfected round the fire ; later the phrase assumed a figurative sense. (Cf. *Vālmīki Rāmāyaṇa* describing the friendship of Rāma with Sugrīva as *agnisākshika*, Kish. 8. 4).

SERVANTS—In Pāṇini a new word *kiṁkara* (III. 2 21) unknown in the Vedic and Brāhmaṇa literature denotes a domestic servant. The *Gaṇa pāṭha* mentions several classes of them, *e.g.* (1) *parichāraka* (attendant), (2) *parishechaka* (one helping in bath), (3) *utsādaka* (one who helps in toilet),

1 For wife as a friend, see *Taittirīya Samhitā*, VI. 2. 9. 2. The same sentiment is echoed by Kālidāsa in *Raghu*. VIII. 67 : *Gṛihiṇī sachivaḥ sakhī mithaḥ*.

(4) *udvartaka* (one who rubs the body with unguents), (5) *snātaka* (II. 2. 9 and VI. 2. 151, *yājakādi* group), (6) *pralepikā* (a female servant who applies paste to the body), (7) *vilepikā* (a female servant who applies unguents before bath), (8) *anulepikā* (a female servant who applies them after bath), (9) *anuchāraka* (an assistant), (10) *maṇi-pālī* (a female to keep charge of jewellery, IV.4.48), (11) *dvāra-pālī* (a female door-keeper), (12) *daṇḍa-grāha* (bearer of staff) and (13) *chāmara-grāha* (bearer of fly-whisk, IV. 1. 146). Most of these servants formed part of the establishment in the king's household and were in the service of aristocratic or high families as stated in the *Arthaśāstra* and the *Kāmasūtra*. In the *sūtras*, Pāṇini mentions *dauvārika*, chamberlain (VII. 3.4), *vaivadhika*, carrier of load (IV. 4. 17) and *udaka-hāra* or *udahāra* water-carrier (VI.3.60).

GUESTS—Hospitality (*ātithya*, V. 4. 26) to strangers and guests was a cardinal virtue of household life. The hospitable man is referred to as *ātitheya* (*atithau sādhuḥ*, IV. 4. 104). The *Gṛihya Sūtras* lay down detailed rules for honouring a guest on his first arrival. Pāṇini mentions *pādya* and *arghya* (V. 4. 25) in the order in which they were offered to a guest, although grammatically contravening his own rule II. 2. 33. He also borrows from the Vedic terminology the word *goghna*, *i.e.* one for whom a cow was dedicated (III. 4. 73). A distinguished guest like a king, a priest, a preceptor, or a respectable relation was considered worthy of this honour. All these persons are incidentally mentioned in a *sūtra* (VI.2.133).

CH. III, SECTION 6. FOOD AND DRINKS

(*Anna-Pāna*)

The *Ashṭādhyāyī* contains material for an important chapter on the history of food and drinks in ancient India. Food is called *anna*, and the eater of food *annāda* (III.2.68). The word *bhakta* which also occurs in the *Jātakas* (*yāgu-bhattādīni, Takkala Jāt.* IV.43) and the *Arthaśāstra* (Text II.24) primarily denoted *anna*, as in *sūtra* VI.2.71 (*Bhaktākhyās-tad-artheshu*) where names of edible articles are implied. A servant or wage-earner whose daily remuneration was given to him in the form of food was called *bhākta* or *bhāktika*, a practice which seems to have been more true in the case of agricultural labour. The *Arthaśāstra* says that food and wages (*bhakta-vetana*) were paid to the artisans, but food only to agricultural labour (*Arth.* Text II 24). Patañjali is even more specific: 'The meaning of the root *kṛishi* is not restricted merely to the actual operation of ploughing, but it also implies all accessory efforts by way of providing food (to labour), seed and bullocks, etc. which together contribute to the complete fulfilment of the sense of the verb' (*Bhāshya*, II. 33, *Yadasau bhakta-bīja-balīvardaiḥ pratividhānaṁ karoti sa kṛishy-arthaḥ*). The other sense of *bhakta*, viz. boiled rice is seen in *sūtra* IV. 4.100, which prescribes a suffix to denote a thing that is good for *bhakta* (*Bhaktāṇ-ṇaḥ*). *Kāsikā's* examples *bhāktaḥ śāliḥ* and *bhāktas-taṇḍulaḥ* show that *bhakta* here stands only for boiled rice, a meaning which it still retains in Hindi *bhāt*.

CLASSIFICATION OF FOODS—(i) *Bhojya*—In a simple-looking *sūtra*, round which controversy has raged, Pāṇini explains the meaning of *bhojya*:

Bhojyaṁ bhakshye, VII.3.69.

It means that the word *bhojya* is irregularly derived in the sense of *bhakshya*. To this Kātyāyana raises an objection that *bhakshya* is not to be taken as a synonym of *bhojya*, since *bhojya* includes all articles of diet, both solid and liquid, while *bhakshya*, denotes only solid food. Kātyāyana suggests that the proper word to express the sense of *bhojya* is *abhyavahārya*, 'worthy of being taken in.' Patañjali disagrees with Kātyāyana and defends Pāṇini by saying that in such older examples as *ab-bhaksha* and *vāyu-bhaksha* (one who lives on water or air) even non-solid substances occur as the object of *bhakshaṇa*, and hence Pāṇini's idiom in equating *bhojya* with *bhakshya* is unobjectionable. All subsequent commentators have accepted Patañjali's liberal interpretation of *bhakshya* in this *sūtra*, viz. that it stands both for solid (*khara-viśada*) and liquid (*drava*) foods (cf. *Kāśikā*, *Iha bhakshyam-abhyavahāramātram*). Dr. Goldstücker, however, raised his voice of dissent against Patañjali and maintained that 'in Pāṇini's time, which preceded the classical epoch, *bhakshya* must have been used as a convertible term for *bhojya*; while at Kātyāyana's period, this rendering became incorrect, and the *sūtra* needed correction' (*Pāṇini and his Place in Sanskrit Lit.* p. 97). Dr. Goldstücker's statement, however, does not hold good even for the whole of the *Ashṭādhyāyī*, since in Pāṇini's own *sūtra* II.1.35 (*Bhakshyeṇa miśrīkaraṇam*) as read with IV.2.16, (*Saṁskṛitaṁ bhakshāḥ*) *bhakshya* denotes solid food only and not liquids, as is evident from the illustration in the *Bhāshya*, i. e. *guḍena saṁsṛishṭā guḍa-saṁsṛishṭā, guḍa-saṁsṛishṭā dhānā guḍa-dhānāḥ* (I.387), which is accepted by all subsequent commentators. (Cf. *Kāśikā*, IV.2.16; *Khara-viśadam abhyavahāryaṁ bhaksham ity uchyate*; also II.1.35). Here *bhakshya* cannot be said to be strictly synonymous with *bhojya*, if, as rightly argued, *bhojya* included both liquid and solid diets. The correct view, we submit, is that *bhakshya* has a two-fold sense in the *Ashṭādhyāyī*, a more general sense in *sūtra* VII.3.69 and a restricted one elsewhere. As for the contention of Dr. Goldstucker (*ibid*, p. 97) that in the classical language *bhakshya* is different from *bhojya* and

applies to solid food only, we submit the following three examples from Kauṭilya, where exactly as in Pāṇini both meanings prevail side by side :

(a) *Māṁsa-surā-bhakshya-bhojana* (*Arth.* Text. p. 214), i.e. eating of meat and other solid foods and drinking of liquors;

(b) *Sūdo bhakshakāro vā bhaksha-bhojanaṁ yācheta* (p.239), i.e. the cook or one who prepares food may ask for some *bhaksha* and *bhojana*;

(c) *Bhakshyeshu smarati* (p. 252), i.e. the king at meals remembers (his courtier).

In the above examples (*a*) and (*b*) distinguish between the meanings of *bhakshya* and *bhojya*, while (*c*) uses *bhakshya* as synonymous with food in general. It is this latter sense that holds good in Pāṇini's *sūtra* VII.3.69.

(*ii*) *Bhakshya* and *Miśrī-karaṇa*. For the rest of the *Ashṭādhyāyī* Pāṇini has distinguished *bhakshya* (II. 1. 35) from *anna* (food in general, II.1.34), and it is, therefore, right to take it as denoting *khādya* (eatable or solid) articles only. Pāṇini's own examples of *bhakshyas* as given in *sūtra* VI.2 128 are (1) *palala* (meat), (2) *sūpa* (pulses) and (3) *śāka* (vegetables), which are compounded with words denoting relish-giving articles of diet like *ghrita*, *guḍa*, etc. According to *Kāśikā's* gloss on VI.2.154 (*Miśraṁ chānupasargam asandhau*) *guḍa*, *tila* and *ghrita* are examples of *miśra* articles. It follows that for improving the taste it was permissible to have any suitable combination with the principal *bhakshya* food. The process of *miśrīkaraṇa*, mixing therewith, is the same as *saṁsrishṭa* (IV. 4. 22). The *sūtra Saṁsrishṭe* provides that the suffix *ṭhak* is added to a word when the sense is 'mixed therewith'. According to Pāṇini *chūrṇa* (IV.2 23), *lavaṇa* (IV.2.24) and *mudga* (IV.2.25) are ingredients which are used in 'mixing therewith'. Kātyāyana, perhaps too subtly, thinks that there is something wrong in salt being considered as an article for 'mixing,' since it is not an eatable by itself but an adjunct of food (*guṇa*)

being one of the six *rasas*. (Cf. Kātyāyana on IV. 4. 24; II.330). But Pāṇini understands salt not merely as a *rasa*, but to be a *paṇya* or material commodity (*cf. lāvaṇika*, a dealer in salt, IV. 4. 52), and therefore a mixable article with food.

(*iii*) *Vyañjana and Upasikta*. Whereas *miśra* articles are mixed at the option of the eater, the use of *vyañjanas* is obligatory to make the food tasteful. Pāṇini takes *vyañjana* in the sense of *upasechana*, (i. e. ingredients of seasoning to improve the taste, IV.4.26, *Vyañjanairupasikte*), as example of which Patañjali mentions *dadhi* (curds) (*Annena vyañjanam*, II. 1. 34) and the *Kāśikā* on Pāṇini II. 4. 12 mentions both curds and butter (*dadhi-ghṛitam*). The nature of any dish determines whether a particular article bears to it the relation of a *vyañjana* or *miśrīkaraṇa*, i. e. an indispensable or optional ingredient of mixing. For example, the *Kāśikā* takes *ghṛita* as an article both for mixing and for seasoning the food (*Kāśikā* on VI. 2. 128 and 154).

(*iv*) *Saṁskṛita*. This term (IV.2.16 and IV.4.3) denotes such food as is ready for eating direct from its place of preparation, e. g. groats ground in a hand-mill. Patañjali further points out that barley which is being pounded in the mortar is not in an eatable stage until it is boiled (*Bhāshya*, IV.3.25; II.307). Pāṇini mentions *dadhi* (IV.2.18), *udaśvit* (butter-milk, IV. 2. 19) and milk (*kshīra*, IV. 2. 20) as examples of *saṁskṛita* food. The *Kāśikā* instances *apūpa* or sweet bread baked in an oven as coming under this class (*bhrāshṭrā apupāḥ*, IV.2.16).

DIFFERENT FOODS—A list of the principal food products and their preparations mentioned in the *Ashṭādhyāyī* is given below:

I. Grains.

1. *Cereals.* (i) *Śāli* (V.2.2), a kind of rice growing in winter which is replanted and called *jaḍahan*.

(*ii*) *Mahāvrīhi* (VI.2.38). One of the best known varieties of rice mentioned by Charaka in his list of principal kinds of rice (*Charaka Saṁhitā*, Nidāna-sthāna, IV. 6). Suśruta mentions *mahāśāli* (Sūtra-sthāna, 46.7), which was perhaps a kindred variety of *mahāvrīhi*. Patañjali praises the *śāli* rice grown in Magadha (1.19). This variety seems to have survived for more than a thousand years. According to Yuan Chwang: 'There is an unusual sort of rice grown here (Magadha), the grains of which are large and scented and of an exquisite taste. It is specially remarkable for its shining colour. It is commonly called "the rice for the use of the great".' (Beal, *Siyuki*, II. 82). This appears to be the rice called *Mahāśāli* and *Sugandhikā* (Julien). Hwui Li, the biographer of the Chinese pilgrim states that the *Mahāśāli* rice was grown only in Magadha and that Yuan Chwang during his stay at Nālandā, was entertained with the special kind of rice (H. D, Sankalia, *Nalanda*, pp. 192-93). Pāṇini's acquaintance with the *mahāvrīhi* rice of Magadha must be due to his intimate knowledge of eastern India.

(*iii*) *Hāyana* (III.1.48), a kind of *vrīhi* (the rainy crop which is not transplanted); included by Charaka amongst the nine varieties of well-known rice.[1] 'In the *Kāṭhaka Saṁhitā* and the *Śatapatha Brāhmaṇa* the term appears as a designation of a species of red rice' (*Vedic Index*, Vol. II.502).

(*iv*) *Yavaka* (V.2.3). Both Pāṇini and Charaka mention *yavaka* as the name of a variety of rice. Pāṇini refers to it also in the *Gaṇa-pāṭha* (*yava vrīhishu*, V.4,3, from which we get *yavaka*). The same *gaṇa* also contains *jīrṇa śālishu*, from which we get *jīrṇaka* as a kind of rice, probably the same as *jūrṇa* of Charaka (Sūtra-sthāna, XXVII. 18).

(*v*) *Shashṭikā* (V.1.90), so called because it took sixty days to ripen (*shashṭi-rātreṇa pachyante*); it was considered

1 *Hāyanaka-yavaka-chīnak-oddālaka-naishadhetkaṭa-mukundaka-mahāvrīhi-pramodaka-sugandhikānām navānām.* Also Sūtrā-sthāna, XXVII. 12, where the name is *hāyana* as in Pāṇini, not *hāyanaka*.

one of the best varieties according to medical authorities (*Charaka*, Sūtra-sthāna, XXVII. 13 ; Hindi *sāṭhī*).

(*vi*) *Nīvāra* (III.3.48), a wild inferior variety.

Pāṇini refers to the bank (*kūla*) of a river called Devikā (VIII.3.1), on which was grown, according to Patañjali, a special kind of rice called *dāvikākūla śāli* (III,316). The river Devikā is identified with Deg flowing through Jammu and Sialkot, even now famous for its excellent rice.

2. *Pulses*. *Mudga* (IV. 4.25) ; *Māsha* (V.1.7 ; V.2.4) ; *Kulattha* (IV.4.4), *Dolichos uniflorus*, mentioned as an article to be eaten with food (*saṁskāraka dravya*). Charaka enumerates *kulattha* amongst pulses (*śamī dhānya*, Sūtrasthāna, XXVII.26).

3. *Other Grains*. *Yava* (barley, V.2.3) ; *Yavānī* (a kind of inferior barley, IV.1.49) ; *Aṇu* (V.2.4) a small grain (*Panicum miliaceum*) which is the principal food of the poorer people in the Sindh-Sagar *doāb* and other parts of the Punjab ; *Gavedhukā*[1] (IV.3.136), *Coix barbata* (Hindi, *gaḍheruā*) boiled with rice or barley in preparing gruel ; and *Tila* (V.1.4 ; II.7).

II. Cooked Foods (Kṛitānna).

(1) *Odana* (IV.4.67), boiled rice, also called *bhakta* (IV. 4.100), must have been a favourite diet, since as many as six varieties of rice are mentioned in the *Ashṭādhyāyī*, of which some varieties were considered specially good for preparing *bhakta* (IV.4.100). *Odana* was either boiled alone in water, called *udakaudana* and *udaudana* (VI.3.60), or prepared in combination with meat (*māṁsaudana*, IV.4.67). Vegetables and soups (*śāka*, *sūpa*, VI 2.128) were other ingredients eaten with boiled rice. Charaka giving a list of thirty-five kinds of rice prescribes the use of *ghṛita*, *taila*,

1 *Kātyāyana* considers the reading of *Gavedhukā* in the *Bilvādi gaṇa* (IV.3.136) as authentic (*Bhāshya*, II.323). The same *gaṇa* also contains *godhūma* and *masūra*.

phala, *māsha*, *tila* along with *odana* (Sūtrasthāna, XXVII. 257). In India *odana* is most commonly eaten with *sūpa* of various pulses. According to the *Mahāummaga Jātaka*[1] the food of a labourer consisted of *bhatta* from barley eaten with *sūpa*. According to Patañjali *odana* made a decent dish to feast Brāhmaṇas (II. 3. 65 ; I. 467) and friends (I. 1. 72 ; I. 182). He repeats several times the phrase, *Vindhyo vardhitakam* (I.4.24 ; I.327), comparing humorously the heap of rice served on a plate with Mount Vindhya. (*Bhāshya*, I. 220, *Ekaścha taṇḍulaḥ kshut pratighāte' samarthas-tat-samudāyaś-cha vardhitakaṁ samartham*). *Vindhya vardhitaka* is a common sight in the eastern districts of the U. P. where rice is the staple food.

(2) *Yavāgū* (IV. 2. 136). Barley gruel was a popular food like *odana*, as can be gathered from its repeated mention in the illustrations to *sūtras*. The *Jātakas* mention *yāgu* as a popular food. Patañjali considered *yavāgū* to be a liquid diet (*Bhāshya* on VII. 3. 69). Pāṇini specially mentions the *yavāgū* eaten in the Sālva country (*Sālvikā yavāgū*) which like the breed of Sālva bulls enjoyed wide reputation (IV. 2. 136, *Go yavāgvoś-cha*). The ancient *Sālva janapada* consisting of a confederacy of six member states most probably coincided with the vast territory stretching from Alwar to Bikaner in Rajasthan. People in these parts are still quite fond of eating gruel, which is of two kinds, *viz.* (1) thin *lāpsī*, that is sweet in taste and eaten by the rich, and (2) thick *rābarī* that is saltish and prepared by the poor. Pāṇini also mentions *ushṇikā* in *sūtra* V. 2. 71 as a *saṁjñā* word, which according to the *Kāśikā* was the name of a *yavāgū* of very thin consistency (*alpānnā yavāgūr-ushṇik-ety uchyate*). In *sūtra* III. 2. 34. Pāṇini describes *nakhaṁ-pachā*, 'nail scotching.' The *Kāśikā* connects *nakhaṁpachā* with *yavāgū*. We know from other sources that *yavāgū* was of two kinds, *peyā* and *vilepī*. The *peyā*

1. *Mahāummaga Jātaka*, Vol. VI. p. 372 ; *mutthiṁ mutthiṁ kalvā appasūpaṁ yava-bhattaṁ bhuñjamānaṁ*. Cf. also *Jāt*. Vol. I., p. 486. describing *bhatta* of inferior rice for poor men (*taṇḍulamanassa bhattam*).

or thin variety was drunk like *saktu* dissolved in water, while *vilepī* or paste-like *yavāgū* was licked with fingers of the hand. The *ushṇikā* in *sūtra* V. 2. 71 must be the *peyā* variety, whereas the *nakhaṁ-pachā yavāgū* was called *vilepī* which scotched the finger ends when licked hot.

(3) *Yāvaka* (V. 4. 29). According to Patañjali *yāvaka* was made by pounding barley with pestle and mortar to remove the chaff, and then boiling its pearl grain in water or in milk with sugar added to it.[1] Charaka calls *yāvaka* a steamed food (*svinna bhakshya*, Sūtra-sthāna, XXVII. 259). The *Arthaśāstra* lays down that prepared *yāvaka* must weigh twice the original quantity of barley cooked (*Arth.* Text. II. 15).

(4) *Pishṭaka* (IV. 3. 147). *Pishṭa* (IV. 3. 146) denoted the ground paste of any grain. Articles prepared by mixing *pishṭa* were generally called *pishṭamayam*. *Pishṭaka* on the other hand was a special preparation, probably the cakes made of powdered rice. Suśruta counts *pishṭaka* among cooked delicacies (*kṛitānna varga*) (G. P. Majumdar, Food, *Indian Culture*, I. 413).

(5) *Saṁyāva* (III. 3. 23). Kullūka explains *saṁyāva* as a sweet preparation made with *ghṛita*, milk, *guḍa*, and wheatflour (*Manu*, V.7), almost the same as modern *chūrmā*. Suśruta also includes it among confectionaries (G. P. Majumdar, *ibid*, p. 413).

(6) *Apūpa* (V. 1. 4). Sweet cakes made of wheat flour and *ghṛita*, a dainty confectionary known in *Ṛigveda*. The *Kāśikā* mentions oven-baked *apūpas* (IV. 2. 16). The *Chāndra Vṛitti* and the *Kāśikā* read *abhyūsha* (variant form *abhyosha*) in the *apūpādi gaṇa*[2] It must have been an ancient food since the *Kāmasūtra* also mentions *abhyūsha*.

1. *Bhāshya*, II. 307 ; *Idam tu na sidhyati aulūkhalo yāvaka iti......Na cha yāvaka ulūkhalād evāpakrishy abhyavahriyate' avaśyam randhanādīni pratīkshyāṇi.*

2 Also *prithuka*, bolied rice, crushed and dried (Hindi *chiruve*) ; cf. *Kāśikā, guḍa-prithukāḥ*, II.1.35 ; *Amara, Āpakvam paulir-abhyūshaḥ*, *i.e.* half-ripe corn fried in fire.

Khādikā as a sport in which boys and girls took part by eating the *abhyūsha* (parched grain) (*Kāma-sūtra*, ch. IV).

(7) *Saktu* (VI.3.59). Pāṇini mentions *saktu* (modern *sattu*) mixed with water as *udaka-saktu* or *udasaktu*, but Patañjali mentions *dadhi-saktu*, i.e. groats eaten with *dadhi* as the seasoning ingredient (I.1.57; I.149). *Bhrāshṭra* or the place for frying is also mentioned (VI.2.82).

Another article of diet when mixed with water was called *udamantha* or *uduka-mantha* (VI.3.60). *Mantha* was a kind of groats made from fried rice (*Kātyāyana Śrauta*, V.8.12) and generally mixed with milk (*manthaḥ kshīra-saṁyuto dhānā-saktuḥ*). The special word *udamantha* referred to such *sattu* when taken only with water. This food is now called *bhujiyā ke sattu*. (For *mantha*, see also *Śat. Br.*, II.5.2.6).

(8) *Kulmāsha* (V.2.83). Pāṇini mentions *kulmāhsa* as a food which was ceremoniously eaten on a particular day in the year (*Tad-asminn-annaṁ prāye saṁjñāyāṁ*, V.2.82). The particular Full-Moon day on account of its association with *kulmāsha* was known as *Kaulmāshī Paurṇamāsī*.

What was the nature of the *kulmāsha* food? In the *Nirukta*[1] *kulmāsha* is an inferior food, which is confirmed by the *Chhāndogya Upanishad* where the people of Ibhya-grāma (richmen's village) in Kurukshetra begin eating *kulmāsha* after the crops were damaged by locusts (I.10.2). The *Kummāsa-piṇḍa Jātaka* (No. 415) refers to it as the coarse food of the poor (*dalidda*) workman which he could carry in the form of a ball or lump, and to which on account of his poverty he could not even add a little fat and jaggery (*atelam, alonikam*).[2] *Kulmāsha*[3] thus appears to

1 *Kulmāshan chidādara ity-avakutsite*, *Nir.* I.4. Dr. Sarup renders it as sour gruel. Cf. *Amara, kulmāsha=yavaka*; later Koshas add *kāñjika yavaka*. Also *Vedic Index* where the meaning of sour gruel is accepted.

2 *Jāt.* III.406; on p. 408 *sukkhāya alonikāya cha......kummāsapiṇḍiyā*. The commentary explains *sukkhāya* as *nisnehāya*, and *alonikāya* as *phāṇita-virahitāya*, adding that *alonikā* meant *nipphānitattā*, absence of jaggery.

3 *Kāśikā* (also *Chandra*) includes *kulmāsha* in the *guḍādi* group (IV.4.103) and illustrates it as *kaulmāshika mudga* i. e. *mudga*, suitable for

have been a coarse thick gruel prepared by stewing beans, maize, or any inferior grain in a covered vessel with a little water (*appodaka*) and also adding *guḍa* and oil to it. *Yāvaka* was different from *kulmāsha* in that it was first pounded in a mortar (made *aulūkhala, Bhāshya*, II.307) and then boiled like the latter. Charaka considers *kulmāsha* as a steamed food (*svinna-bhakshya*), heavy to digest and dry in effect (Sūtra-sthāna, XXVII.259). The *Kaulmāshī* day of Pāṇini most probably coincided with the Full-Moon day of Chaitra, and the *Vaṭakinī* of Kātyāyana with the Full-Moon day of *Kārttika*, when *kulmāsha* and *vaṭaka* cakes of *māsha* paste form the ceremonial food respectively. The Hindi equivalent of *kulmāsha* is *ghughri*. (Cf. *Bhojana-kutūhala*, P.K. Gode, *A.B.O.R.I.*, XXII.256).

(9) *Palala* (VI.2.128). A sweetmeat made of pounded sesamum and sugar or *guḍa*, as illustrated by *Kāsikā*, *guḍena misraṁ palalaṁ guḍa-palalam* (VI.2.128), and *tila-palalam* (VI.2.135). Its modern equivalent is *tila-kuṭa*.

(10) *Chūrṇa* (IV.4.23). It means wheat flour fried on a pan and mixed with *ghī* and sugar. In this form it was put inside cakes or *apūpas*, which in Pāṇini's time were called *chūrṇinaḥ apūpāḥ* (*Kāśikā*, corresponding to modern *gūñjhā* or *guñjhiyā*). The *churna* preparation is still known as *chūn* in eastern district like Banaras and *kasār* in western districts like Meerut.

III Sweets.

Pāṇini mentions the following sweets :—

(i) *Madhu*, honey from which is derived the general term *madhura* (V.2.107) denoting all confectionaries. Honey prepared by the common bee is referred to as *kshaudra* (IV.3.118) treated as a *saṁjñā* word.

making *kulmāsha*. Chakrapāṇi on *Charaka*, Sūtra-sthāna, XXVII.260, explains *kulmāsha* as *yavapishtam uham ushnodaka-siktam ishatsvinnam apūpi-kritam kulmāsham āhuḥ*.

(*ii*) *Guḍa* (V.4.103), molasses, a universal product of sugarcane juice. Pāṇini's phrase 'excellent for making *guḍa*' (*guḍe sādhu*) refers to some special variety of sugarcane yielding better quality of *guḍa*. Even now this consideration prevails with experienced farmers in selecting sugarcane seed for the next crop. Pāṇini refers to vast cane plantations or forests of sugarcane as *ikshu-vaṇa* (VIII.4.5).

(*iii*) *Phāṇita*, implied as a counter-example in *sūtra* VII.2.18 which mentions *phāṇṭa*. *Phāṇita* denotes inspissated juice of sugarcane boiled down to thick consistency, a preparation now call *rāb*, from which after crystallisation sugar is prepared.

(*iv*) *Śarkarā*, granulated sugar prepared from sugarcane.

IV. Milk Products.

Milk products are called *gavya* and *payasya* (IV.3.160) of which curds, milk and butter-milk (IV.2.16; *dadhi-payasī* II.4.14) are mentioned as important food articles. *Phāṇṭa* as given in *sūtra* VII.2.18 has the sense of 'made without effort' (*anāyāsa*). The *Kāśikā* understands it as a hot decoction, but the epithet *anāyāsa* points to its old meaning of butter produced from the cream of the day's milk (*ayātayāma*, *Śatapatha Brāhmaṇa*, III. 1. 8), as opposed to *navanīta* churned from curds of the previous day's milk, for which a new classical word, *haiyaṁgavīna* (V.2.23) had come into use in Pāṇini's time.

Pāṇini has an interesting *sūtra*, *Pānaṁ deśe* (VIII.4.9), which apart from its grammatical interest (*i.e.* cerebralisation) acquaints us with the fact that different countries were named after their popular drinks. Of the four illustrations on this *sūtra* the first cited by the *Kāśikā* and repeated in the *Chāndravritti* (VI.4.109) refers to the people of Uśīnara country as being fond of drinking milk (*Kshīra-pāṇā Uśīnarāḥ*). The information seems to be grounded in fact. Uśīnara or the ancient Śibi *janapada* had its capital at Shorkot near the bank of the lower Chenab, and roughly corresponded with parts of Jhang,

Multan and Montgomery districts famous for their breed of cows. The geographical term *Pāna-Sindhu* (*Kāśikā*, VII.3,9) should be identified with the south-half portion of Sindhu *janapada* (Sind-Sagar Doab) which was an extension of Uśīnara for its prosperity in cattle wealth and of which the inhabitants were fond of dairy products in their dietary. Charaka informs us that the people of Sindhu (*Saindhavāḥ*) were fond of Milk (Chikitsā-sthāna, 30-31). *Saktu-Sindhu* denoted the northern portion of Sindhu *janapada* where the people eat groats to this day. Eastern India was fond of wines (*surā-pāṇāḥ Prāchyāḥ*); Bālhika of *sauvīra* (a kind of sour drink); Gandhāra of *kashāya* wine.

The *Mahābhārata* mentions *mathita* (whey) as a favourite drink of the people in the Vāhīka country, and Patañjali refers to *māthitika* shopkeepers selling *mathita* (VII.3.50; III.328, *mathitaṁ paṇyam asya māthitikaḥ*).

V. Vegetables and Fruits.

Among auxiliary articles of food Pāṇini refers to *śāka* (leafy vegetables), *bhājī* (cooked vegetables, IV.1.42; also called *śrāṇā* in *sūtra* IV.4.67), *supa* (juice of boiled pulses, VI.2 128), prepared from pulses like *mudga* and *māsha*. Mention is also made of the practice of munching with food such digestive roots as radish and ginger, called *upadaṁsa* (III.4.47).

Among fruits *āmra* (mango, VIII.4.5) and *jambū* (rose-apple, IV.3.165) are mentioned. Generally the name of the tree denoted also the name of the fruit (IV.3.163, *Phale-luk*).

COOKING—Cooking is called *pakti* (III.3.95). Frying-pans were used for cooking (*ukhā*, *ukhya*, IV.2.17). The process of roasting on spikes is referred to as *śūlā-karoti* (V.4.65) and articles so roasted were known as *śūlya* (IV.2.17). The commentators understand this process to apply only to meat preparations. Pāṇini explicitly refers to *māṁsa* in *sūtra* IV.4.67. Kauṭilya also mentions shops of cooked meat (*pakva-māṁsika*, II.36) and *śūlya* articles of food.

The cooks in the time of Pāṇini derived their names from two factors, firstly from their specialised skill in preparing particular dishes, and secondly from the quantity which they were capable of handling. The first point is perhaps referred to in VI.2.129, in which the names of various classes of cooks are presumed, as *deva-sūda* and *bhājī-sūda*, i. e. cooks attached to temples and those expert in the cooking of vegetables.[1] Even at present the *bhājī-sūda* is a specialist whose services are in demand at the time of big feasts for making vegetables.

The practice of designating cooks on the basis of their capacity to cook a particular measure or quantity of food is referred to in *sūtra* V.1.52. This may have been a criterion to determine their wages and fitness for employment in domestic and festive cooking. Pāṇini speaks of cooks handling different quantities of food-stuffs, equal to an *āḍhaka*, *āchita* or *pātra* measure (V.1.53). Kātyāyana in a special *vārttika* refers to the cooking of a *droṇa*-measure, from which a female cook competent to handle this quantity was known as *drauṇī* or *drauṇikī* (V.1.52 ; II. 352). There were also female cooks handling larger quantities like two *āḍhakas*, and named *dvyāḍhakī*, *dvyāḍakikī* *dvyāḍhakīnā* (V.1.55 ; II.352). The popularity of these epithets is seen from another rule in which Pāṇini gives as many as four variant forms for designating one who could cook a couple of *kulija* measures, *e. g.* *dvikulijikī* *dvikulijīnā* *dvikulijā*, *dvaikulijikī* (V.1.55).

The same principle held good in the case of utensils which were named from the quantity that they could contain (*sambhavati*, V.1 52) as *prāsthika*, *kauḍavika*, *khārīka*, or the quantity that could be cooked in them (*Parimāṇe pachaḥ*, III 2.33). This naming of cooking vessels according to their capacity was of practical use at the time of borrowing utensils for big feasts.

1 Cf. *Artha*. Text, V. 1, referring to *sūda* and *bhakshakāra* as saucemaker and sweetmeat-maker respectively. The *Kāśikā* understands *Devasūda* and *Bhājisūda* as place-names.

CUSTOM OF FEEDING DOMESTIC SERVANTS.

Pāṇini refers to the custom of giving food to a domestic servant as part of his wages fixed by custom (*niyukta*, IV. 4.65). This practice was so widely prevalent that special terms were used to indicate it, *e.g.* a servant who got cooked rice as his food every day was called *odanika* or *bhāktika* (*odanikī* for a female servant). According to Pāṇini the customary payments of food to domestic servants were of obligatory nature:

Tad asmai dīyate niyuktam (IV.4.66)

'The affix *ṭhak* is added after the name of food which is to be given as a customary payment.'

The word *niyukta* comes from *niyoga*, which Patañjali explains as a legal obligation like a debt.[1] For example, if one had engaged a servant for a *paṇa* per day, the *paṇa* was a *niyukta* charge, the payment of which at the end of the day was obligatory. We have to think of those circumstances in which an article of food became due in a like manner. We read in the *Arthaśāstra* of *bhakta-karmakaras*, i.e. servants engaged on the stipulation of being given daily food. In actual rural economy there has always existed the custom of giving a portion of the mid-day meal to certain domestic servants and menials, like the scavenger and the water-carrier, etc. Their daily wages in respect of the services rendered to the various families consist only of food articles which they are required to collect in the course of the day from the houses served by them. The village Brāhmaṇa also by virtue of his privileged position as Purohita gets a portion, which is no doubt referred to in the illustration *āgrabhojanika* (*agre bhojanam asmai niyuktaṁ dīyate*) cited by the *Kāśikā*. In this case the members of the household cannot partake of their food unless the *agrabhojana* has been set apart. It is to be noted that this supply of food (*niyukta bhaksha*) is part of the stipulated

1 *Yad-yasya niyogataḥ kāryam-riṇaṁ tasya tad-bhavati.* (*Bhāshya*, 1.391; in the course of explanation of the *vārttika* on *sūtra*, II. 1.43).

wages for which the servant is employed. According to Pāṇini the food thus supplied might be of different kinds, viz. cooked vegatables (*śrāṇā*), rice cooked with meat (*māṁsa* and *odana*, IV.4.67), or full meal, (*bhakta*, IV.4.68). One getting cooked vegetables would be called *śrāṇika*, or *śrāṇikī* in the case of a female; similarly *māṁsika* (getting meat as food), *odanika* (getting boiled rice) and *bhāktika*. The *bhāktika* was the same as *bhakta-karmakara* of Kauṭilya, receiving a full meal every day. This practice worked out in a manner that the servant could make a complete meal with the different articles received from different houses. The same person would be a *śrāṇika* in respect of one family, *odanika* in respect of a second, and *āpūpika* in respect of a third. For example, a female water-drawer (*udabārī*) agreed to take vegetables from one house, soup from another, meat and rice from a third and so on, and thus she earned her full meal. If she served a confectioner (*āpūpika*) she would naturally receive an *apūpa* a day as her payment for work, and with reference to that particular house she would be called *apūpikī*, i.e. a female receiving an *apūpa* every day.

Such an arrangement alone would be responsible for the origin of different designations of servant based on the names of different articles of food as *niyukta* share. This is a living institution in North Indian villages upto this time where cash payment is practically unknown for domestic and menial services rendered.

INVITATIONS—Pāṇini refers to two kinds of invitations to dinner, *viz*. *nimantraṇa* and *āmantraṇa* (III.3.161). Patañjali explains the former as an invitation to take food at sacrifices (*havya*) and *śrādbha* (*kavya*), the acceptance of which was obligatory. *Āmantraṇa*, however, was an invitation to a feast extended to friends and relations and therefore less formal (*āmantraṇaṁ kāmāchāraḥ*, II. 165).

PLATE-LEAVINGS—Pāṇini refers to special terms applied to food-leavings when served in different kinds of utensils. (*Tatrodhṛitam amatrebhyaḥ*, IV.2.14). The

domestic servants enjoy customary rights to receive particular leavings and hence the necessity of special words in the language. The *Kāśikā* records three such leavings of rice-food, viz. *śarāva*, *mallaka* and *kārpara*. The first referred to the leavings from the plates in which rice was actually served for eating, and this must have been the share of the scavenger, as it is up to this day. The second, viz. *mallaka*, was the leavings in the pot (*mallaka*) from which it was served, and this must have been the share of the family barber (*nāpita*). The third or *kārpara odana* was that which was left behind in the cooking pot and as such must have been the customary share of the cooks. The *Kāśikā* explains *uddhṛita* as *bhuktochchhishṭa*, and the *Nānārthārṇava Kosha* as *bhuktojjhita* (Vol. II, p. 42). The word *ujjhita* is the Prakrit form of Skt. *uddhṛita*.

As to food-habits, Pāṇini refers to them as fasting (*vrata*, III.1.21), gluttony (*audarika*, V. 2.67, *ghasmara*, *admara* III 2.160), and moderation (*suhita*, II.2.11).

DRINKS. Pāṇini mentions the following terms in connection with drinks:

(1) *Śuṇḍikā*—Drinking booth (IV.3.76), *Śauṇḍika*—Vintner (IV.3.76).
(2) *Āsuti*—Distillery (V.2.112), *Āsutīvala*—Distiller (V.2,112).
(3) *Madya* (intoxicating liquor, III.1.100);
(4) *Surā* (wine in general, II.4.25).
(5) *Maireya* and (6) *Kāpiśāyana*, names of special wines.

These are new classical words unknown to older Vedic literature.

MAIREYA—Maireya was a popular drink. The word is unknown in the *Brāhmaṇa* and *Araṇyaka* literature, which suggests its origin in the post-Vedic period. The Buddha found its use so common as to lay down a prohibition against it. Pāṇini's *sūtra* is *Aṅgāni maireye* (VI 2.70).

'The first syllable of the word preceding *maireya*, gets the acute accent, when that word denotes an ingrdient of *maireya*.' It implies that the word *maireya* enters into a compound with words denoting its ingredients.

Leaving the particular grmmatical point aside, we infer from *sūtra* that Pāṇini had a knowledge of the ingredients (*aṅgāni*) of *maireya* liquor. It is not possible to understand the rule properly without a knowledge of these ingredients.

The *Arthaśāstra* of Kauṭilya enumerates six varieties of liquors, *viz*. *medaka*, *prasannā*, *āsava*, *arishṭa*, *maireya* and *madhu* (*Arthaśāstra*, Text, II.25). It also gives the full recipe of *maireya*:

"Prepare a decoction of *meshaśriṅgī* bark, mix it with jaggery (*guḍa*) and add the powder of long pepper (*pippalī*) and black pepper (*maricha*); to it the powder of *triphalā* may be added optionally,—this is the recipe of *maireya*."[1]

In the above recipe *meshaśṛiṅgī*, *pippalī*, *maricha* and *triphalā* belong to one group, and *guḍa* to another. Further light on this division is thrown by the two illustrations given on Pāṇini's *sūtra* by the *Kāśikā*:

गुडमैरेयः । मधुमैरेयः ।

मद्यविशेषो मैरेयस्तस्य गुडविकारस्य गुडोऽङ्गं भवति, मधुनो मधु ।

Both these examples refer only to the sweetening ingredients of *maireya*, viz. *guḍa* and *madhu*. Obviously according to Pāṇini's intention as implied in the *sūtra*, the word *aṅgāni* refers only to the sweetening ingredients and not to the *aushadhi* contents like *meshaśṛiṅgī*, etc. It may be inferred with reason that the *aushadhi* contents of *maireya* remained constant, whereas the sweetening ingredients varied between *guḍa*, *madhu*, *śarkarā*, etc. The naming of *maireya* would thus depend not on the constant ingredients, but on the

[1] मेषशृङ्गीत्वक्क्वाथाभिषुतो गुडप्रतीवापः पिप्पली-मरिच सम्भारस्त्रिफलायुक्तो वा मैरेयः ।
(*Arth*., II.25)

sweetening contents which varied. For example, the customer ordering his *maireya* drink from the master of the booth would not say *meshaśṛiṅgī-maireya* or *triphalā-maireya*, but would express his desire for a variety in taste by ordering for *guḍa-maireya*, *madhu-maireya*, *śarkarā-maireya*, *phāṇita-maireya*, *ikshurasa-maireya*, etc.

The above varieties of sweetening ingredients (*madhura-varga*) mixed with the decoction of *meshaśṛiṅgī* and other specified herbs, must have produced a correspondingly superior or inferior quality of drink. Charaka tells us that *maireya* was primarily a *madhura* wine, a drink of sweet taste. The choice of an inferior condiment like *guḍa* and *phāṇita*, or of a superior one like refined sugar made all the difference in the quality, taste and price of the *maireya* drink. The aristocratic customer in the tavern would order a superior grade of wine, and in the case of *maireya* this emphasis would fall naturally on the first part of the compound, *i.e.* on the word denoting the sweetening ingredient which before got an acute accent on it.

The *Arthaśāstra* mentions *guḍa* as a mixture of *maireya* in the recipe quoted above. It agrees with the example *guḍa-maireya* of the *Kāśikā*. The other example *madhu-maireya* i.e. *maireya* prepared by mixing honey, lacks confirmation from the above statement in the *Arthaśāstra*. The question arises as to whether we are on good authority for assuming that other sweetening ingredients besides *guḍa* were also added to *maireya*.

The answer to this is in the affirmative. In the chapter relating to the duties of the Superintendent of the Royal Storehouse, Kauṭilya gives directions for the storage of liquids tasting astringent:

'Mixture made by combining any one of the substances, such as the juice of sugar-cane, jaggery, honey, raw granulated sugar, the essence of the fruits of *jambū* and jack tree,—with the decoction of *meshaśṛiṅgī* (a kind of

plant) and of long pepper should be stocked. To this the addition of the following is optional, *viz. chirbhiṭa*, cucumber, sugar-cane, mango fruit and the fruit of myrobalan. This mixture should be either one month or six months, or a year old. This constitutes the *śukta-varga*."[1]

In this context Kauṭilya does not actually use the name *maireya* for the liquid to be stocked in the royal storehouse, but the recipe leaves no doubt that high class *maireya* is intended. The *oshadhi* contents are the same, *viz.* the docoction of *meshaśṛiṅgī* and *pippalī* (*maricha* is left out as of minor importance); in the optional group in place of *triphalā* alone, we have greater variety in *āmalaka, āmra-phala urvāruka, ikshu-kāṇḍa*, etc. In the enumeration of the sweet contents, in place of *guḍa* we have six varieties, of which *madhu* is also one. We can now understand the example *madhu-maireya* given in the *Kāśikā* on Pāṇini, VI.2.70. Honey like *guḍa* was also an ingredient from which the particular variety of *maireya* derived its name. We may imagine that both *guḍa-maireya* and *madhu-maireya* were ancient illustrations to Pāṇini's rule. The plural number of the Pāṇinian word *aṅgāni* also stands justified by its reference to as many as seven varieties of sweetening ingredients mixed with *maireya, viz.* molasses (*guḍa*), honey (*madhu*), sugar (*śarkarā*), sugarcane juice (*ikshu-rasa*), inspissated juice (*phāṇita*), sugar of jack fruit (*panasa*) and of rose-apple (*jāmbava*).

KAPIŚAYANA—*Kāpiśāyana* is referred to in *sūtra* IV.2.29: *Kāpiśyāḥ shphak*.

The grape exported from Kāpiśī was known as *Kāpiśāyanī drākshā* and its wine *Kāpiśāyanam madhu*.

1. इक्षुरस-गुड-मधु-फाणित-जाम्बव-पनसानामन्यतमो मेषशृंगी-
पिप्पली क्वाथाभिषुतो मासिकः षाण्मासिकः सांवत्सरिको वा
चिर्भिटोर्वारुकेक्षुकाम्रफलामलकावसुतः शुद्धो वा शुक्तवर्गः।
(*Arth.* Text, II. 15, p. 94).

Kāpiśī[1] is even today the home of the grape. In ancient days an excellent quality of raisin wine was manufactured at Kāpiśī and widely exported.[2] Kauṭilya supplies the clue to the name Kāpiśāyana: 'The juice of grapes is termed *madhu.* Its own native place is the commentary on such of its various forms as *Kapiśāyana* and *Hārahūraka.*' (*Arth.* Trans. p. 145; Text. II. 25). Obviously there were two varieties of the grape wine, the *Kāpiśāyana* produced in the region round Kāpiśī in north Afghanistan, and *Hārahūraka* in the south in the valley of the Harahvaiti or Arghandāb.[3] The black raisins are still called *harahūrā,* and it is possible that the *Kāpiśāyana* or northern variety of wine was made from green and the *Hārahūraka* or Kandhār wine from black grapes.

Kauṭilya's sentence, *tasya svadeśo vyākhyānaṁ Kāpiśāyanam,* supplies the needed commentary on Pāṇini's *Kāpiśāyana* which must have been the name of the reputed wines from that region. That Kāpiśī was an emporium for this class of drinks is also proved by the recent archaeological discoveries at this site of numerous glass flasks, fish-shaped wine jars and drinking cups which were used in the wine trade many centuries after Pāṇini. (Cf. J. Hackin, *Recherches Archéologiques à Begram,* 1939, pp. 9-10, plates XVII-XIX).

KASHĀYAS—Pāṇini also refers to names of *kashāyas,* decoctions (VI.2 10, *Adhvaryu-kashāyayor jātau*) of which the *Kāśikā* gives several examples. The *dauvārika-kashāya,* seems to have been an intoxicating drink of mild effect

1. *Kāpiśī* is ancient Begram on the confluence of the Ghorband and Panjshir rivers. An inscription in Kharoshthī characters recently found there settles the ancient site of the place. (Dr. Sten Konow, Kharoshthī Ins. on a Begram Bas-relief, *Ep. Ind.*, XXII, pp. 1-11).

2. Bindusāra sent for raisin wines from king Antichos in the third century B.C.

3. *Harhvaiti* (*Avestan*), *Harahuvati* (O. Persian) = Skt. Sarasvatī; also called Haraquaiti (cf. *CH. I.* p. 326). It is the modern Arghandāb. (*Vedic Index,* II. 434, footnote to Sarasvatī).

specially prepared for the *dauvārika* or doorkeeper (Pāṇini, VII.3.4 ; also *Arth.* Text. V. 3), whose duties required him to indulge only in the mildest kinds of drinks.

Besides the above names, the *Gaṇa-pāṭha* of V.4.3 (supported both by the *Kāśikā* and *Chāndra Vṛitti*) includes *kālikā* and *avadātikā* as names of special wines. *Kālikā* must be the same as *kālikā surā* in Kauṭilya (*Arth.* Text. II.25) and *avadātikā* might be only another name for *śveta-surā* of the *Arthaśāstra* (p. 121), also called *prasannā* (*cf.* *Kāśikā* on V.4.14). Kātyāyana refers to *śīdhu* in a *vārttika* on II. 2. 8.

DISTILLATION—In the distillery (*āsuti*, V.2.112), the ingredients were first prepared into a ferment (*kiṇva*) ; and when their fermentation was complete, they were termed *āsāvya* (III. 1 126), literally 'that of which the distillation has become imminent' (*āvaśyaka*). The sediment or refuge (*kalka*) left after distillation was termed *vinīya* (III. 1.17), a technical word in the vintner's vocabulary, literally 'which is fit for removal'. According to Kauṭilya, women and children could be employed for removing the *surā-kiṇva*, or fermented dregs (*Arth.* Text, II 25, p. 121).

Another expression originating in the vocabulary of the drinking booth was *kaṇe-hatya* (*pibati*) regularised in *sūtra* I.4.66, which corresponds to the English idiom 'drinking or draining to the less'.

CH. III, SECTION 7. HEALTH AND DISEASE

There is evidence of early investigation and nomenclature in the Vedic period of a number of important diseases and also of the identification of many useful herbs which pharmaceutical research in that age employed to fight disease. The evolution is further suggested by the development of specialised studies, as for example, Toxicology (*Visha-vidyā*) which is enumerated in one place in the list of special sciences or *vidyās* (*Vedic Index*, II.312).

These studies were cultivated at important educational centres and attracted brilliant pupils gifted with practical mental bias who must have found in them openings for a useful career in later life. Takshaśilā was one such reputed centre at which Jīvaka, the royal physician of king Bimbisāra received his education.

Pāṇini brought up in the traditions of Takshaśilā uses several words for disease, such as *gada* (VI.3.70), *upatāpa* (VII.3.61) and *sparśa* (III.3.16), the last probably referring to contagious diseases. A medical doctor is called *agadaṁkāra* (VI.3.70). The herbs were known as *oshadhi* and the medicines as *aushadha* (V.4.37, *Oshadher-ajātāu*). Since an *aushadha* was a compound of several ingredients to suit the needs of each case Pāṇini takes the view that it did not form a genus or class like the herbs.

A special suffix *tas* was used to indicate the disease to be cured (*Rogāchāpanyane*, V.4.49), in such phrases as *pravāhikātaḥ*, *kāsataḥ*, *chhardikātaḥ kuru* 'please cure me of (1) diarrhoea, (2) cough, and (3) vomitting'.

HUMOURS OF THE BODY. *Kātyāyana* commentiug on Pāṇini's *sūtra Tasya nimittaṁ saṁyogotpātau* (V.1.38), mentions the three humours of the body for the first time

together, viz. (1) *vāta* (wind), (2) *pitta* (bile), (3) *śleshma* (phlegm). On this basis Eggeling says, there was "some king of humoral pathology prevalent among the Indian physician several centuries before our era." (*Ency. Br.* Vol. 19, p. 970b, 14th edition).

We have separate referencc to *vāta* in *sūtra* V. 2. 129 in connection with a patient (*vātakin*) suffering from wind. *Pitta* occurs in the *Sidhmādi* group (V. 2.97) and *śleshman* forms part of the *Pāmādi-gaṇa* (V. 2.100).

DISEASES (*ROGA*, *UPATĀPA*)—Pāṇini frames rules for naming diseases after, e.g. (1) time (*kāla*); e.g, *dvitīyaka*, *chaturthaka*, fevers appearing after two or four days; (2) cause or effect (*prayojana*); e.g. fevers with shivering (*śītaka*) or heat (*ushṇaka*), or fevers produced by poisons as *vishpushpa*, and *kāsapushpa* (V. 2.81, *Kāśikā*).

Name of diseases (*rog-ākhyā*) were formed according to a regular pattern by adding the *ika* suffix (*sūtra* III. 3. 108), which according to the commentators regularised such forms as *prachchhardikā* (vomitting), *pravāhikā* (diarrhoea, *vicharchikā* (scabs), etc. The rule points to the tendency in medical science for names of ailments to follow a uniform derivative pattern, similar to that in modern pathology. *Pravāhikā* diarrhoea and *vicharchikā* (scabs) are referred to in a *sūtra* as *atisāra* and *pāman* (V. 2.129).

In medical language patients are described in terms of the diseases from which they suffer. Pāṇini notes a general provision to derive the name of the patient after the name of the disease (V. 2 128), for example *kushṭhī* from *kushṭha*, one afflicted with leprosy, (VIII. 3.97), etc. Similarly he mentions *arśasa* (one suffering from hæmorrhoids, V. 2.127), *vātakī* (a sufferer from wind troubles), *atisārakī* (V. 2.129, one afflicted with dysentry). One suffering from the debilitating effects of a disease was called *glāsnu*, 'convalescent' (III. 2.139). Kātyāyana notes the word *āmayāvī* (*vārttika* on V. 2.122) for an ailing patient.

AUTUMNAL DISEASES—Seasonal outbreaks of epidemics were known, as shown in *sūtra* IV. 3 13, referring to *Śāradika roga*, 'autumnal diseases.' These diseases, mostly fevers, coming after the rainy season, are still known.

LIST OF DISEASES—The following diseases are noted in the *sūtras*.

(1) *Atisāra* (V. 2.129), from which the derivative word was *atisārakī*.

(2) *Arsas* (V. 2.127), piles.

(3) *Āsrāva* (III. 1.141), discharge. It is a disease mentioned in the *Atharvaveda*, the precise nature of which is uncertain. Sāyaṇa translated it as painful urination (*mūtrātisāra, Atharva*, I. 2.4). Lanmann takes it as diabetes and Bloom-filed as diarrhoea (*Vedic Index*, 1.74).

(4) *Kushtha* (VIII. 3.97), leprosy. According to Charaka *sidhma, pāmā* and *vicharchikā* are reckoned amongst eighteen kinds of *kushṭha*.

(5) *Kshetriyach*. It is mentioned several times in the *Atharvaveda*, which scholars take to be the name of a special disease. Indian commentators understand in the sense of hereditary disease (*Vedic Index*, I 211). Pāṇini throws light on its meaning in the following *sūtra* :

Kshetriyach para-kshetra chikitsyaḥ, V.2.92.

'*Kshetriya* is that (disease) which is curable in another body,' *i. e.* a foul disease which is incurable in this life.

(6) *Nyubja* (VII. 3.61), hump-backedness due to disease.

(7) *Pāman* (V. 2.100), a skin disease. It occurs in the *Atharvaveda* as the name of a skin disease (V. 22-12). According to Keith the derivative adjective, *Pāmana* 'suffering from skin disease' is found in the later *Saṁhitās* and the *Brāhmaṇas* (*Vedic Index*, I.5.17).

(8) *Vikshāva* (III, 3.25), cough.

(9) *Saṁjvara* (III. 2.142), fever, probably consumptive in nature. The sufferer was called *saṁjvarī*.

(10) *Sidhma* (V.2.97), a kind of leprosy, the sufferer being known as *sidhmala*.

(11) *Sparśa* (III.3.16). According to Kātyāyana's *vārttika* the word denoted an ailment, probably contracted by touch or infection.

(12) *Hṛid-roga* (VI.3 51), heart-disease. The word occurs also in the *Ṛigveda*. In the medical *Saṁhitās* the word probably denoted *angina pectoris* (*Vedic Index*, II.507).

BODY (*ŚARĪRA*)—Anatomy of the body was a subject which had attracted the attention of the Indians even in the Vedic times (*Vedic Index*, II.358). The popularity of the subject is proved by the fact that even a grammatical treatise like the *Ashṭādhyāyī* contains a comprehensive list of terms for the various parts of the body. Body (*śarīra*) consists of two kinds of limbs (*svāṅga*), *viz. dhruva* (vital, VI.2.177) and *adhruva* (non-vital, III.4.54). The former is defined by the *Kāśikā* to include those limbs the loss of which results in death; the latter signified parts or limbs injury to which did not cause death. Pāṇini regards the costal bones (*parśu*, VI.2.177) as *dhruva* or an esential limb.

The following bodily parts (*svāṅgas*) are mentioned by Pāṇini:

Fingers (*aṅguli*) foot (*pāda*), forepart of the foot (*prapāda*, V.2 8), knee-caps (*ashṭhīvat*, VIII.2.12), legs (*jaṅghā*), knee-joints (*jānu*, V 2.129), thighs (*ūru*, *ūrvashṭhīva*, V.4.77), loins (*sakthi*, V.4.113), hips (*sphiga*, VI 2.187), belly (*udara*), navel (*nābhi*), womb (*kukshi*), arms (*bāhu*), chest (*uras*), ribs (*parśu*, VI 2.177), breasts (*stana*), collar-bone (*aṁsa*), neck (*grīvā*), nape (*manyā*, III.3.99, cf. *Vedic Index*, II.133), ears (*karṇa*), nose (*nāsikā*), eyes and eyebrows (*akshi-bhruva*, V. 4.77), mouth (*mukha*, VI.2.167), lips (*oshṭha*), teeth (*danta*, IV.1.55), tongue (*jihvā*), forehead (*lalāṭa*), head (*mūrdhā*, *mastaka*, *śirsha*), bone (*asthi*), sinews and arteries (*nāḍī*, *tantrī*,

V 4.159), heart (*hṛidaya*, *hṛit*, VI.3.50), lever (*yakṛit*, VI.1.163), hair (*keśa*, *loma*), nails (*nakha* derived as *na* plus *kha*, VI.3.74), skin (*tvach*), flesh (*māṁsa*), vital parts (*arush*, V.4.51), bladder (*vasti*, IV.3.56).

The list includes some words specially noticeable, as *manyā*, *tantrī*, *arush* and *vasti*. According to *Amarakosha* the vein in the back of the neck was called *manyā*.

MAHA-HAILIHILA—*Hailihila* and *mahā-hailihila* are words of unknown meaning and origin, mentioned by Pāṇini as special names of some article (VI.3.38). The word is not explained in any Sanskrit dictionary, nor is there any instance of its being used in literature. It appears that *hailihila* was a Semitic word appearing in a sanskritised form, as the name of a poison which was imported from the West. In Arabic *halāhila* means deadly poison (cf. Hebrew *halūl*, deadly poison). Steingass derives without reason the Arabic word from Skt. *halāhala* (F. Steingass, *Persian-English Dictionary*, p. 1506). The Skt. word itself is exotic as shown by its variant spellings, e.g. *hālāhala*, *halāhala*, *hālahala*, *hālahāla*, *hāhala*, *hāhāla* (Monier-Williams, *A Sanskrit English Dictionary* 1899 revised edition, p. 1293). Pāṇini's *hailihila* seems to come nearest to the original Semitic form of the word, which may have been Armaic, the international language of trade and commerce in the Achaemenian world from Syria to Gandhāra. Pāṇini refers to poisons in general called *visha* and to the third degree methods of liquidating particular persons marked out as *vishya* by the administering of poison.

WORDS FOR CLOTHING—Besides the usual *vastra* and *vasana* denoting clothing in older literature Pāṇini mentions three new post-Vedic words, *viz. chīra* (VI 2.127), *chela* (III.4.33) and *chīvara* (III.1 20). In the *sūtra Chele knopeḥ* (III.4.33), *chela* denotes a garment worn on the body. *Chīvara* is frequently used in Buddhist books for a monk's robe. It is conspicuous by absence in the *Brāhmaṇa* and *Āraṇyaka* literature. Its Buddhist association is strengthened by its illustration which occurs both in the *Chāndra-vritti* and the *Kāśikā*, *saṁchīvarayate bhikshuḥ*, the monk dons the *chīvara* or 'takes the holy robes'. We do not find the word applied to the garments of laymen, a householder or a Brahmachārin.

The word *āchchhādana* denoted both a garment as *prāvāra* (III.3.54) and *bṛihatikā* (V.46), and also cloth (VI. 2.170). It is more frequently used in the *Ashṭādhyāyī* than any other word for cloth. Its later affinities are apparent from the fact that the word is not found in the *Brāhmaṇas*, occurs several times in the Dharmasūtras (*Vasishṭha*, XVII. 62; XVIII.33, *grāsāchchhādana*) and the *Arthaśāstra* in the sense of clothing (*Arth.* Text, I.11, p. 18).

KINDS OF FABRICS—Various classes of fabrics are mentioned :

(1) *kauśeya* (IV.3.42), silken cloth. According to Kātyāyana *kauśeya* is so called because it is produced from the cocoon, and though the silk-worm is also a similar product, the word applies only to the silken cloth.

(2) Linen cloth (*auma* or *aumaka*, IV.3.157), made from the yarn of flax (*umā*), and hemp (*bhaṅgā*) plants.

(3) Woollen garments (*aurṇa* or *aurṇaka*) made from wool (*ūrṇā*, IV.3.158).

(4) Cotton (*kārpāsa achchhādana*, a counter-example to IV.3.143). The word *karpāsī* occurs not in a *sūtra*, but in the *Gaṇa-pāṭha Bilvādi* (IV.3. 136), but its reading there must be authentic, as it is the only fabric-denoting word in the *Bilvādi* group and without it half of Pāṇini's rule IV.3. 143 (*abhakshy-āchchhādanayoḥ*) would become redundant. In the chapter, IV.3.136-142, to which the rule IV.3.143 applies, *karpāsī* is the only word denoting clothing-making material.[1] The word *tūla* also occurs in Pāṇini (III.1.25, III.64), in a compound like *ishīka-tūla*.

DRESS—The dress of the times is indicated in the *sūtra Antaraṁ bahiryogopasaṁvyānayoḥ*, I.1.36. We learn from this rule that *antara* in Pāṇini's time was used in two senses, *viz.* exterior (*bahiryoga*) and dress (*upasaṁvyāna*). According to *Kātyāyana upsaṁvyāna* denoted one of a pair of *śāṭakas*. Since there were two *śāṭakas* one serving as *uttarīya* and the other as *antarīya*, *upasaṁvyāna* denoted the one which served as *antarīya*, *viz.* that which was worn, andsnot that which was used as a wrapper or scarf to be thrown over the shoulders. The *Kāśikā* further explains that *upasaṁvyāna* was a kind of *paridhānīya* 'fit for wearing' and not a *prāvaraṇīya* covering.' In the most early examples of Indian sculpture as shown in the Parkham Yaksha statue (Dr. Coomaraswamy, *H I.I.A.*, Pl. III), the Didārganj Yakshī from Patna, made of polished Chunar stone and belonging to the Maurya period (*ibid.*, Pl. V), and the numerous Yaksha and Yakshī figures of Sanchi and Bharhut, the sole dress of both male and female figures consists practically of a pair of *śāṭakas* (*śāṭakayugam*). Both the *upasaṁvyāna* (*antara śāṭaka*, *antarīya*) and the *prāvaraṇīya* (upper scarf) were arranged gracefully in an endless variety of ways. The Greeks in the fourth century B.C. were struck with the extreme simplicity and elegance of Indian dress, consisting then as in the time of Pāṇini, of a pair of *śāṭakas*. Arrian

1 The genuineness of the *Bilvādi* group is also proved by Kātyāyana examining in a *vārttika* the reading of *gavedhukā* which is ninth in position (II.323).

writes: 'The dress worn by the Indians is made of cotton, as Nearchos tells us. They wear an undergarment of cotton which reaches below the knee half-way down to the ankles, and also an upper garment which they throw partly over their shoulders, and parly twist in folds round their head.' (Arrian. *Ind.* Frag. XVI). The *Ashṭādhyāyī* enables us to know that the undergarment reached down to the forepart of the foot, and was therefore called *āprapadīna* (V. 2. 8). An invariable feature of wearing the *antarīya* or *dhoti* as seen on ancient sculptures depicting male and female figures is the tying of the girdle round the waist. The arrangement of the girdle is clearly visible on the Parkham statue, the Besnagar Yakshī and the Patna Yakshas, where it can be distinguished from the upper scarf and the lower *dhoti*. Pāṇini refers to a girdle as *nīvi*, the region of the belt being called *upanīvi* (IV. 3. 40).

On *sūtra*, V. 1. 21 Patañjali cites an illustration from which we learn that the price of one hundred *śāṭakas* or *dhotis* was one hundred (*Śatena krītaṁ śatyaṁ śāṭaka-śatam*, II. 346). It will be shown in the Section on coins that when the number occurs without specifying the name of the coin, a silver *kārshāpaṇa* was usually meant. We may therefore say that in the time of Patañjali (2nd century B.C.) the selling price of an average cotton *sāṛī* was one silver *kārshāpaṇa*.

In the *Sthūlādi-gaṇa* (V. 4. 3) there is a reference to the *gomūtrikā* cloth, which appears to have been so called from the *gomūtrikā* design woven into its texture at one end. The *gomūtrikā* pattern was known in the fourth century B.C. as mentioned in the *Arthaśāstra* in connection with the formation of battle-arrays (*Arth.* Text, X. 6). We may note in this connection that the *paṭalī* or front folds of the *dhoti* on the Yaksha statues aforesaid are arranged zig-zag in the form of the *gomūtrikā* motif.

BLANKETS (*KAMBALA*)—Several kinds of blan-

kets and woollen wrappers of different kinds were in use. Blankets produced in a standard size as marketable goods were called *paṇya-kambala* (V. 2. 42). Their size and weight were determined according to the measure of wool used. Such measure was called *kambalya*, equal to one hundred *palas* in weight, roughly five seers. The *kambalya* measure is derived by Pāṇini as a *saṁjñā* word (*Kambalāchcha saṁjñāyām*, V. 1. 3), pointing to its definite meaning. The *kambalya* seems to have been a measure of value and medium of exchange for some transactions in the barter economy of those days. Pāṇini mentions the formation *kambalyā* in *sūtra* IV. 1. 22, illustrated by the *Kāśikā* as *dvi-kambalyā*, *tri-kambalyā*, *i.e.* 'purchased for the price of 2 or 3 *kambalya* measures of wool' which would refer to a goat or sheep purchased for 2 or 3 *kambalya* measures of wool.

PRĀVĀRA—*Prāvāra* (also *pravāra*) as a garment is referred to in the *sūtra Vṛinoter āchchhādane* (III. 3. 54). Kauṭilya names *prāvāraka* as a blanket made of the wool of wild animals (*mṛiga-roma*, p. 80). In the *Mahābhārata prāvāra* is described as a class of blankets for protection against cold (Vanaparva ; 3. 51). It seems that *prāvāra* was a wrapper made of finer quality of wool and lighter in weight than the *paṇya-kambala*.

BṚIHATIKĀ—It is referred to in *sutra Bṛihatyā āchchhādane*, V. 4. 6. The upper garment which was thrown on shoulders covering either one or both of them and falling down to the waist or knees seems to have been the *bṛihatikā* dress. The *Amarakosha* understands it as a kind of *prāvāra*, a big all-covering mantle. As remarked by the Greeks about the dress of the Indians: "They have a tunic of tree-linen down to the middle of their shins" (*C.H.I.*, p. 412). This long tunic may have been the *bṛihatikā* conforming to a real etymology of that word. Patañjali mentions *bṛihatikā* as a current dress (1.2.69). It seems to have been a fine wrapper 24′ by 12′

in size, mentioned as *bāhitikā* in the *Majjhima Nikāya* (*Sutta* 88).

A rich kind of wrapper known as *rāṅkava* is referred to in ancient literature along with woollen fabrics.[1] Pāṇini mentions *raṅku* in *sūtra* IV.2.100, from which we get *rāṅkava*. The *Kāśikā* explains *rāṅkava* as a blanket.

We may also note the names of two other kinds of blankets known to Kātyāyana and Patañjali. In a *vārttika* on *sūtra* VII.3.45, (*Varṇakā tāntave*) Kātyāyana mentions *varṇakā* as a woven fabric, which Kauṭilya describes under the masculine form *varṇaka* as a kind of woollen blanket (*Arth.* II. 11). Patañjali refers independently to *kutapa*, a Nepalese blanket or *thulma* (II.1.69 ; I.406).

ORNAMENTS AND TOILET—Pāṇini refers to cultured citizens (*pravīṇa nāgarakas*, IV.2.128), and also to the arts of personal decoration (*subhagaṅkaraṇa*, III.2.56). Decoration was applied to the different parts of tho body (*Svāṅgebhyaḥ prasite*, V.2.66), such as *keśa*, which were dressed in an artistic manner by the dandy called *keśaka*. There are references to ornaments (*alaṁkāra*, IV.3.64), elegant drapery (*āchchhādana*, V.4.6), stylistic coiffure (*keśavesha*, IV.1.42) and to special words indicative of the beauty of the female form, e. g. *vāmorū*, *saṁhitorū*, *śaphorū* (IV.1.70).

In a group of phrases as *purusha-vyāghra*, *purusha-siṁha* (II.1.56, *Upamitaṁ vyāghrādibhiḥ sāmānyāprayoge*) and *hastighna* (III.2.54), Pāṇini refers to the ideal of physical valour (*śakti*) for men.

He also mentions some epithets indicative of social-honour, *e. g. sat*, *mahat*, *parama*, *uttama*, *utkrishṭa* (II.1.61), *vṛindārka*, *nāga*, *kuñjara*, *pūjyamāna* (II.1.62), etc.

Whereas women enjoyed themselves with various garden sports as *śālabhañjikā* implied in the *sūtra Prāchāṁ krīḍāyām* (V.2.74), the male members skilled in the use of arms parti-

1 Sabhā Parva, 47.22, *aurṇaṁ cha rāṅkavam*.

cipated in jousts organised for the sake of pleasure (*praharaṇa-krīḍā* IV.2.57). Music, both vocal (*gāyana*, III.147) and instrumental (*vādaka*), practised on the lute and other percussion instruments, also formed part of the usual pastime of a cultured society.

Of ornaments *alaṁkāras*) Pāṇini refers to *aṅgulīya*, finger-rings (IV.3.62), *karṇikā*, ear-ring[1] (IV.3.65). *lalāṭikā*, ornaments of the forehead (IV.3.65) and *graiveyaka*, torque round the neck (IV.2.96). If we look to the earliest known examples of Indian art we find these three ornaments conspicuously depicted there. The *karṇikā* is represented as the heavy ear-rings worn in cloven ears of men and women; the *graiveyaka*[2] as the torque, worn in addition to the flat triangular necklace on such statues as the Parkham Yaksha; and the *lalāṭikā* as the round pendant found on the forehead of the earliest female figures as the Yakshī from Didārganj, Patna (Bachhoffer, *Early Indian Sculpture*, Pl. 9) and Sudarśanā (Pl.19), Chulakokā (Pl.20) and Sirimā *devatās* (Pl.21) from Bharhut. These works of art are no doubt removed in time from Pāṇini, but they represent the earliest specimens of classical Indian art and show an older tradition. The *Jātakas* also mention ear-rings, frontlet pieces and torques round the neck (*giveyyo*, *Jāt.* VI. 590).

Pāṇini also mentions *kumbā* (III. 3.105) which according to the *Vedic Index* denoted a female adornment connected with the dressing of the hair (*Vedic Index*, I,163). In one place he refers to a special style of female coiffure (*keśa-veśa*) known as *kaburī* (IV. 1.42). The word may have originated from the variegated appearance of the braid of hair interwoven with a garland of flowers.

Among other requisites of personal decoration (*bhūshaṇa*,

1 Nearchus, *Frags.* 9 and 10; "And the Indians wear ear-rings of ivory." *C.H.I.*, p. 412)

2 For *graiveyakas* see also *J.U.P.H.S.*, *May*, 1933, p. 97, Pre-Kushāṇa Art of Mathura, by V. S. Agrawala.

I.4.64, VI.1.133 ; *alaṁkāra*, IV.3.65, etc.) and toilet *Subhagaṁ-karaṇa*, III.2.56), we find reference to the following :

1. *Darśana* (V.2.6.), mirror (*ādarśādi*, *Kāśikā*) which was of two kinds, (1) *yathāmukhīna* (flat) and (2) *sammukhīna* (convex) in which only the frontal view gave correct perspective, and which was probably made of polished metal.

2. *Añjana*, not referred to directly, but mention is made of the Trikakut mountain (V.4.147) from which a kind of valuable salve called *Traikakuda añjana* was obtained. (Cf. *Atharva*, IV.9.9 ; *Vedic Index*, I.329). It may be identified with the Sulaiman mountains which is the home of a salve sold all over Sind and Panjab. The *Mahābhārata* refers to fair-complexioned Panjabi women painting their eyes with the *añjana* from the Trikakut mountain (Karṇaparva, 44.18). Another kind of salve, *Yāmuna añjana* was obtained in the region of the Yamunā, (Dehradun Dt.) which was known to Pāṇini as *Kalakūṭa* ('the Black Hill', IV.1.173).

3. *Mālā* (VI.3.65), garland. One who adorned his person with garlands was called *mālabhārī* (VI.3.65 ; fem. *mālabhāriṇī*). Patañjali illustrates this *sūtra* by the form *utpala-māla-bhāriṇī* i.e. the girl adorned with lotus garlands (I.1.72 ; I.1.87). Pāṇini refers to *sragvī*, a garland-wearer, used as the special epithet of a *snātaka*, who beautified himself with flower garlands after completing the period of studentship during which time the use of flowers was forbidden.

4. *Gandha* (*perfumes*). Pāṇini mentions several kinds of perfumes, as (1) *kisara* (IV.4.53), (2) *śalālu* (IV.4.54) in the *sūtras*, and others like *narada*, *tagar*, *guggulu* (bdellium) and *uśīra* (*Andropogon Muricatus*), in the *Kisarādi-gaṇa*. From the way he mentions these perfumes it appears that there were special shopkeepers who traded in these articles (*Tadasya paṇyam*) and who were named after them, *e.g.* a woman selling *śalālu* (an unidentified fragrant substance)

was called *śālāluki* and *śalāluki*. Spikenard (*nalada*) was an old Indian perfume produced in the regions of the upper Indus and in Indo-Scythia and forwarded through Ujjain to Bharukachcha and thence to Egypt. 'Pliny describes the nard with its *spica*, mentioning also that both the leaves and the *spica* are of high value, and that the odour is the prime in all unguents, the price being 100 denarii for a pound.' (McCrindle, *Periplus*, p. 25).

5. *Daṇḍa* (V.1.110). Pāṇini refers to the staff called *āshāḍha* (*pālāśa-daṇḍa*) which was used in the initiation ceremony (*upanayana*).

6. *Asi* (IV.296), sword, also called *kauksheyaka* from its being kept in a sheath.

7. *Upānah* (V.1.14), shoes, made of leather, manufactured according to the size of the foot (*anupadīnā*, V.29). The *Baudh. Śr. Sūtra* mentions shoes made of tiger's skin (*vaiyāghryau upānahau charmapakshau*, XVIII.16, p. 361). Pāṇini also knew of the use of *vaiyāghra* leather (IV.2.12) for upholstering purposes.

The *Brahmajāla Sutta* contains a stock list of dress and toileting processes comprising twenty items. (G.P. Majumdar, Toilet, *Ind. Culture*, Vol. I, p. 651). This list agrees closely with the one laid down in Suśruta (*ibid.* p. 653). Of those items Pāṇini refers to mirror, collyrium, garlands, perfumes, shoes and staff. In the *Yājakādi* group (which occurs twice in the *Ashṭādhyāyī*, II.2.9 and VI.2.151), Pāṇini mentions *snāpaka* (barber), *utsādaka* (one who anoints), *udvartaka* (one who rubs the body with emollient unguents) and *parishechaka* (one who sprinkles); and again in the *Mahishyādi-gaṇa* (IV.4.41) *anulepikā* (a female for applying sandal paste after bath), *pralepikā* (a female to apply unguents before bath) and *vilepikā* (a female to apply scented oils, etc.). The *Artha-śāstra* also mentions these personal attendants in the service of the king. (Cf. also the king's toilet in the *Kalpasūtra* which mentions them, *S.B.E.*, Vol. XXII, p. 241 ff.).

CH. III, SECTION 9. DWELLINGS

Pāṇini acquaints us with the principal architectural patterns of buildings found in a big city, e.g. *rāja-sabhā* (the king's council-hall, II.4.23), *geha, griha* (houses, III.1.144), *nivāsa* and *nikāyya* (residental buildings or quarters, III.1. 126), *chhātri-śālā* (hostels for the women, VI.2.86), words ending in *agāra*, like *koshṭhāgāra* (royal store-houses, IV.4. 70), *nishadyā* (rest-houses, III.3.99), *dvāra* (city-gates, IV.3. 86), *parikhā* (moats, V.1.17), *kapāṭa* (door leaves, III.2.54) and *parigha* (bolts, VIII.2.22).

ŚĀLĀ—*Śālā* was used for a variety of buildings, *e.g. sabhā* (council-hall II.4.24, *Aśālā chā*); *chhātri-śālā* (female hostel, VI.2.86); *gośālā* and *kharaśālā* (stable for cows and asses, IV. 3.35), the last one being also found in the *Atharvaveda* and *Brāhmaṇas* (*Vedic Index*, II.376). *Śālā* was also used for a granary room for storing corn with an opening called *śālā-bila* (VI.2.102). It was a Vedic word (*Vedic Index*, II.376). *HOUSES*—The Vedic word for home was *griha*. Pāṇini also uses the term *griha* (III.1.144) which the *Kāśikā* explains as *veśma* or homestead, or as the women in residence there (*tātsthyād-dārāścha*), implying that the women constituted principally the household. Three other terms were also used, *viz. geha* (III.1.144), *agāra* (III.3.79) and *kshaya* (VI.1.201; cf. Sabhāparva, 33.16, *ajāyata Yadukshaye*, Krishṇa born in the house of Yadu). *Agāra* occurs once in the *KaushītakīUpanishad* (*Vedic Index*, 1.7).

Pāṇini refers to officers (*niyukta*) in charge of buildings ending in *agāra* (IV 4.69-70), *e.g. bhāṇḍāgārika, devāgārika, koshṭhāgārika* (*Kāśikā*). *Agāra* indicated a larger building with several parts, one of which (*agār-aika-deśa*) was called *praghaṇa* or *praghāṇa* (III.3 79), explained by the *Kāśikā* as the rooms in the outer gateway of a building (*bāhya-dvāra-prakoshṭha*). (Cf. Pali *paghana*, a covered terrace

before a house, *Vin.* II.153 ; *paghanaṁ māma yaṁ nikkhamantā cha pavisantā cha pādehi hananti*, Buddhaghosha). In the *Udaya Jātaka* there is a reference to *koṭṭhaka* which the commentary translates as *dvāra koṭṭhaka* (*Jāt.* Vol. IV. 106). Dr. Coomarswamy understands *dvāra-koṭṭhaka* specifically as gatehouses, which formed part of the gateways in the wall of a city and of which several examples are found in ancient Indian art (Early Indian Architecture, 'Cities and City-Gates,' p. 209, *Eastern Art Annual*, 1930, Vol. II ; Skt. *alinda*).

NISHADYĀ—In *sūtra*, III.3.99 Pāṇini gives *nishadyā* as a specific word (*saṁjñā*) meaning a rest-house. The *nimsi* (*d*) *yās* (resting places) are referred to by Aśoka (Pillar Edict VII). The Nāgarjunī Hill Caves were built for providing shelter to monks during rains (*vāsa-nisidiyāya* = *varshā-nishadyāyai*).

NIKĀYYA AND NIKĀYA—These are synonymous of *nivāsa*, a dwelling place (III.1.129; III 3), and are in this sense peculiarly Pāṇinian words. It is not certain whether they were used to denote only the residence of monks. In the *Manu Smṛiti* we find the word *deva-nikāya* (I 36), taken by the commentators as *deva-nivāsa-sthāna*. *Nikāya* occurs once in the *Yajurveda*, but as the name of a *chhanda* denoting Vāyu (*Śatapatha*, VIII.5 2 5, commenting on *Yaj.*, XV.5). The *Arthaśāstra* also uses *nikāya* once but in quite a different sense, *viz.* *saṅgha* (Text. II.4, p. 55).

EKAŚĀLIKA—The word *eka-śālika*, or its optional form *aikaśālika*, was of some practical importance. Pāṇini derives it as *eka-śālā iva*, 'that which is like one (man's) building' (V.3.109). It did not mean the owner of a single house, but it denoted dwelling-place, which in respect of its use was reserved as one man's building, *i.e.* not intended for public use. The Tinduka-vana of queen Mallikā, wife of king Prasenjit, in the vicinity of Śrāvastī (*Dīgha Nikāya*, I p. 278) was formerly *eka sālaka* used as her own pleasance or for her guests. Such a residence was called *rājāgāraka* (Brahma-

jāla Sutta). Subsequently this park-house was thrown open to the Buddhist community (*bahū sālā katā*; *Sumaṅgala Vilāsinī*, II. p, 265). It was a matter of some consequence in the social life of that period whether a park-residence of some rich man was of the nature of *ekaśālika*, i. e. reserved for personal use, or was thrown open for public use. We know from the story of Anāthapiṇḍika how he converted the garden of Prince Jeta which used to be *ekaśālika* (i. e. reserved for his own use) into a public residence for the use of the entire Buddhist Saṁgha.

MATERIALS—Pāṇini refers to bricks among building materials in the phrase *ishṭaka-chita*, denoting something constructed with bricks (VI. 3.65). The Pāli literature also mentions *iṭṭhakā vaḍḍhaki* or brick-layers. (Dr. Coomaraswamy, City and City-Gates, p. 211; *Jāt.* VI. p. 333).

The roof of a house is called *chhadis*, probably denoting the thatched covering known as *chhappar*. The word *chhādisheya* refers to the material with which the *chhadis* was made (V. 1.13). The actual doorway (*dvāra*) opened or closed with a pair of leaves called *kapāṭa*. Reference is made to daring burglars (*kapāṭaghna chaura*) battering against the leaves of a door-way to secure entrance (III.2.54). The *Mahākaṇha Jātaka* refers to battering against the place-door (*kavāṭe thapetvā*, IV, 182). The closed door panels were secured from inside by a bar drawn across called *parigha* or *paligha* (VIII. 2.22), which meant an iron bolt ((*Vedic Index*, I, 494).

Besides the residential and public buildings, there were market-places (*āpaṇa*, III. 3.117) where commercial commodities (*paṇya*) were stocked and saleable goods (*krayya*, VI. 1.82) were displayed.

Pāṇini also refers to the old Vedic god Vāstoshpati (IV. 2.32), the presiding deity of *vāstu* or homestead. Two older words, *kshaya*, 'abode' (VI. 1.201) and *āvasatha* (V. 4,23), are also mentioned. The precise sense of *āvasatha*

appears to be a place for the reception of guests, especially Brāhmaṇas and others on the occasion of feasts and sacrifices (*Vedic index*, I. 66). According to Pāṇini : 'One who lives in an *āvasatha* is called *āvasathika*' (IV. 4.74). The religious guest-house was identical with that part of a householder's dwelling in which the household fire (*āvasathya agni*) was established.[1]

1. We are indebted to Patañjali for preserving two important architectural terms, *viz*., *āmalakī* and *valabhī* (*Bhāshya*, VI. 2.82; III. 132) denoting the pinnacle and the cornice-mouldings respectively, which figure so prominently in the earliest representation of buildings in the sculpture of Bharhut and Sanchi.

CH. III, SECTION 10. TOWN-PLANNING

Pāṇini refers to some important towns of his time. *e. g.* Kāpiśī, Takshaśilā. Śākala. Hāstinapura, Śāṁkāśya, and Kāśi. The *gaṇas* add other names. The existence of these cities shows progress in the art of town-planning (*nagara-māpana*) and architecture (*vāstuvidyā*). References to *vatthu-vijjāchariya* and *pāsāda-māpana* are known in the Jātakas (*Suruchi Jāt.* IV. 323).

The most important parts of a city were its moat (*parikhā*), rampart (*prākāra*) and gates (*dvāra*), which served as the main defences. *Sūtras* V. 1. 17-18 envisage regular town-planning. For example, *Parikhāyā ḍhañ*, speaks of 'the space earmarked for a moat as *pārikheyī* (*bhūmi*).' The previous *sūtra*., *Tadasya tad-asmin syād-iti*, V. 1.16, presupposes some sort of planning preceding the actual construction work. The marking out of the site of the moat, the rampart and the palace formed the preliminary part of such planning. The *Vatthuvijjāchariyas* or expert architects were requisitioned for testing sites (*Jāt.* I. 297; IV. 323), for the actual planning of cities (cf. *nagaraṁ Vedehena sumāpitaṁ Mahāummaga Jāt.* VI. 448). The *Arthaśāstra* mentions the construction of ditches (*parikhā*) as the first item in the construction of forts (*durga-vidhāna*). We read in the *Mahābhārata* that the site of Indraprastha was mapped out (*nagaraṁ māpayāmāsuḥ*) in the presence of Dvaipāyana Vyāsa and others and that work commenced with the digging of a series of moats (*parikhābhiḥ*), followed by the building of a high rampart (*prākāra*), numerous gate-ways (*dvāraiḥ*) and towers (*saudhaiḥ*) (Adiparva., 209. 29-32). Why the moat was built first can be understood from the fact that the earth so obtained was utilised for raising the mud-rampart (*pāṁsu-prākāra*), or for moulding bricks for the city wall (*prākārīyā ishṭakā*), or as Kauṭilya says, for ramming in the hollow masonry work (*pāṁsu-viśesheṇa vāstu-chhidraṁ vā pūrayet, Arth.* Text, II. 3, p. 52).

The *Arthaśāstra* ordains the digging of three moats round the fort, having an intermediate space of one *daṇḍa* (6 ft.) between each other and being fourteen *daṇḍas* (84 ft.) twelve *daṇḍas* (72 ft.), and ten *daṇḍas* (60 ft.) respectively in width (*Arth.* II. 23). Thus a total width of 38 *daṇḍas* (228 ft) represented the *pārikheyī* land round the fort. We are indebted to the commentary on the *Udaya Jātaka* (IV. 106) for names of the three moats, *viz. udaka, kaddama* and *sukkha* a water moat, a mud and a dry moat. These may be taken to have followed the width given in Kauṭilya. We have discussed in another chapter Pāṇini's *purusha* measure (V. 2 38) which according to the *Arthaśāstra* was equal to 5¼ feet (*Arth.* Text, II. 20, p. 106). Kauṭilya says that depth was measured in terms of this length called *khāta-paurusha*. The examples *dvi-purushī* and *tri-purushī* in the *Kāśikā* on *sūtra* V. 2.38 (*Purusha-hastibhyām aṇ cha*) refer to the depth of ditches or moats.

PRĀKĀRA AND DEVAPATH—There is no mention of *prākāra* in the *sūtras*. *Kātyāyana* mentions *prāsāda* and *prākāra* in a *vārttika* on *sūtra*, VI 3 122, and the trend of his discussion shows that the words were implied in Pāṇini's rule. The stock illustrations on V. 1.16 (*Tadasya tadasmin syāditi*) include *prākārīya deśa* (the site for a rampart) and *prākārīya ishṭakā* (bricks for the city-wall), the latter agreeing with the direction of Kauṭilya that the ramparts should be made of bricks.

There is, however, one word in the *Ashṭādhyāyī* which gives a definite clue to Pāṇini's acquaintance with the technical details of the building of ramparts and parapets. He mentions *devapatha* at the head of the *gaṇa Devapathādi*, (V. 3. 100), which again can be explained only in the light of Kauṭilya. This corroborative testimony from the *Arthaśāstra* is rather singular since no other work throws light on the meaning of the Pāṇinian word. According to Pāṇini the 'passage' which resembles a 'celestial passage' (*devapatha*) is called *devapatha* (V.3.100). What can such a passage or road possibly be so as to deserve the comparison involved? According to

Kauṭilya the wide road on the top of the parapet built along the line of battlements (*indrakośas*) was called *deva-patha* (*Arth.* Text, II.3, p. 52 ; Trans. p. 51). The height of the brick fort-wall (*prākāra*) above the mud-rampart (*vapra*) is there stated to be thirty-six feet rising from the ground level[1], and the battlements were built above it. The *deva-patha* extending along the city-wall should be understood with reference to its great height resembling the celestial passage (*devapatha*) in the heavens, justifying the comparison of the former with the latter (V.3.100).[2] The *Raghuvaṁśa* (XIII. 19) also refers to *devapatha* (= *surapatha*) as an altitude in the stratospheric measurements. We learn from later literature that the walled town of Pāṭaliputra became noted for its fortifications (*Pāṭaliputrakāḥ prāsādāḥ*) including its city-walls or palisades (*Pāṭaliputrakāḥ prākārāḥ*), and we find Patañjali speaking of the city called *Sukosalā* which gave a detailed (*avayavaśaḥ*) idea of the wonderful city-walls of Pāṭaliputra(*Bhāshya*, IV.3.66. II.311 ; and IV.3.134 ; II.321).

CITY-GATES—The plan of the ancient walled cities was rectangular, usually square, pierced with four gates, one in the middle of each wall, facing the four quarters. (*Nagarassa chatusu dvāresu*, *Jāt.* I,262 ; III. 415 ; cf. 'Cities and City-Gate', p. 213). Pāṇini desbribes the principle which governed the naming of these city-gates in the following *sūtra* :

Abhinishkrāmati dvāram (IV.3.86).

i. e. 'the city-gate is named after the other city towards which it opens ;' e.g. *Māthuraṁ Kānyakubja-dvāram*, a gate in Kānyakabja, opening towards Mathurā.

1 The *Mahākaṇha* (IV.182) and *Mahāsutasoma* (V.478) *Jātakas* mention the height of a *pākāra* to be 18 cubits (*aṭṭhārasahattha pākāram*) or 27 ft. While visiting the Alwar fort I was told that the fort-wall is still built 18 cubits high from the ground level.

2 Vardhamāna misunderstands the point of comparison in the derivation of *devapatha*, when he says that the latter was so called from its possessing shady trees, supply of water and freedom from dangers in the manner of a divine road (*Gaṇaratna*, Verse 186).

This principle of naming the city-gates originated at least in the fifth century B. C. and has continued throughout up to our own days. Hundreds of gates built in the Mughal period derive their names in this manner, e.g. *Ajmerī darwāzā*, a gate situated in Delhi but named after Ajmer.

The roads leading out of the city-gates also derived their names in the same manner as stated in the following *sūtra* :

Tad gachchhati pathi dūtayoḥ (IV.3.85).

'The names of roads and couriers are derived from their destination.' For example, all the roads which proceeded in the direction of Mathurā,-even though they were situated in different towns, were labelled *Māthura* by the people of each locality. Thus the *Māthura* road of each city passed through its *Māthura* gate.

Patañjali knows of a wide net-work of roads punctuated by well-marked stages for purposes of halt and rest. He refers to the road leading from Sāketa towards Pāṭaliputra (*Bhāshya*, III.3.136 ; II.162), and again to the route leading towards Srughna (*Bhāshya* I.3 25 ; I.281). Pāṇini also refers to the terminii of roads connectng cities. The terminus at its destination was called *maryādā* or limit, and the other cities on the way marked the intermediate stages at shorter (*avarasmin*) or longer distances of the journey (III.3.136). Thc *Kāśikā* adds the interesting fact that these halts were counted by the need of rest and meal on the way.

Pāṇini mentions the Grand Trunk Road of North India as *Uttarapatha*, 'the Northern Road' (V,1,77), running from Gandhāra to the eastern country, of which the details are given by the Greek geographers.

THE CITY—We may thus picture a well laid-out city to have been equipped with a multitude of buildings, both for its defence and for the practical needs of residence and business. The fortification consisted of the moat, parapet

wall and gate-ways, while the civil architecture had its residential buildings, business quarters (*āpaṇa*, III.3.119), intersected by streets (*saṁchara*, III.3.119), royal store-house (ending in *agāra*, IV.4.70, as *koshṭhāgāra* and *bhāṇḍāgāra*), king's council-hall (*rājasabhā*) and a number of other buildings comprised under the general term *śālā*, e.g. places of dramatic performance (*prekshā*, IV.2.80), dancing, music, concerts and sports (*praharṇa-krīḍā*), etc. Reference is also made to ferries (*nāvya*, IV.4.91).

THE VILLAGE—The villages were marked out by their natural boundaries, such as (1) forests (*vana*), (2) thickets (*kaṭhina*, IV.4.72), (3) rivulets, (4) hills (*giri*), (5) jungle (*jaṅgala*, VII.3.25) and *prastāra* (rocks, IV.4.72). The village proper consisted of houses, mostly peasant cottages (*kuṭīra*, V.3.88), covered with a roofing of reed and straw (*chhādisheya triṇa*, V.1.13). An individual house (*kuṭī*, V. 4.95) sheltering one family (*gārhapata*, VI.2.42) formed the unit of village life. The entire settlement was called *vasati* (IV.4.104) and a multitude of villages by the name *grāmatā* (IV.2.43). The village depended for its water-supply on wells (*kūpa*, IV.2.73), to which were attached *nipānas* (III. 3.74) or water troughs from which cattle would drink. Wells were cleaned by specially trained labourers who acted as dredgers called *udagāha* or *udakagāha* (VI.3.60).

The area surrounding the village settlement consisted of (1) arable land (*sītya*, IV.4.91), (2) pasture (*gochara*, III.3. 119), (3) plantations of bamboo thickets (*vaṁśa-kaṭhina*, IV.4.72), and reeds like *śara* (VIII.4.5) and *muñja* (*Saccharum muñja*, III.1.117), (4) fruit-bearing trees (*phalegrahi*, III.2. 26), (5) reserves of herbs and plants (*aushadi-vanaspati vana*, VIII.4.6), (6) forests of timber as *śiṁśipā*, *śamī*, *plaksha* and mango (VIII.4.5), and (7) waste saline tracts or *ūshara* land (V.2.107).

Cultivated land was divided into a number of holdings (*kshetra*) which are specifically defined as plots where crops were grown (*dhānyānāṁ bhavane*, V.2.1). A systematic

survey of agricultural land appears to have been undertaken by special officers called *kshetrakara* (III.2.21), who measured out each field and fixed its area (*kshetra-bhakti*) in terms of the *kāṇḍa* measure (IV.1.23); for example *dvikāṇḍā kshetra-bhaktiḥ*, a field having an area equal to two *kāṇḍa* measures. The estimated area of individual fields was further expressed in terms of the quantity of seed required for its sowing (*Tasya vāpaḥ*, V.1.45). The division of arable area into separate holdings (*kshetra*) shows that they were held under individual ownership. The term *kaidārya* (IV.2.40), 'a group of fields,' probably indicates some kind of consolidated holdings.

Pastures appear to have been held in common by the village for the grazing of its cattle (*grāmya-paśu-saṅgha*, I.2.73). The village also had its cattle ranches called *goshṭha* (V.2.18) or *vraja* (III.3.119). Settlements of cowherds (*gopāla*, VI.2.78) were known as *ghosha* (VI.2.85),

The site of the ranches was subject to shifting owing to exigencies of fodder. According to Pāṇini: 'A place which had formerly been occupied by a *goshṭha* was called *gaushṭhīna*' (*Goshṭhāt khañ bhūtapūrve*, V.2.18). The entire village land was marked out, as today, for habitation, grazing, dumping of manure, and agriculture, the last three shifting after every twelve years. The plot for grazing was *goshṭha* when in use, and *gaushṭhīna* after it was abandoned.

The village land was distinct from a forest (*araṇya*), the abode of wild people (*āraṇyaka manushya*, IV.2.129) and wild animals (*āraṇya paśu*). The forests were also used for grazing of domestic animals (*grāmya-paśu-saṅgha*, I.2.73). When a particular range was denuded of its fodder supply, it was called *āśitaṅgavīna* (V.4.7), *i.e.*, 'the area where the cattle had eaten up all its fodder.' The herdsmen then moved the ranch to a different area which was called *goshpada deśa* (for the use of cattle, VI.1.145). In the same *sūtra* Pāṇini refers to forests not so used (*asevita*) by cattle (*agoshpada*, VI.1.145), as they were too dense and impenetrable (*mahāvana*, *Kāśikā*).

CH. III, SECTION 11. FURNITURE

The progress of civilisation brought with it certain amenities, such as furniture to make life easy and homes comfortable. Furniture was of two main classes, *viz.* *śayana*, for lying down and *āsana*, for sitting, as mentioned by Pāṇini (VI.2.151). The word *śayanāsana* corresponds to Pāli *senāsana* which signified 'furniture.'

As examples of household furniture Pāṇini mentions *śayyā*, bed (III.3.99); *khaṭvā*, cot (II.1.126); *paryaṅka* or *palyaṅka*, couch (VIII.2.22); *āsandī*,[1] settee or royal throne (VIII.2 12); *vishṭara*, an ordinary seat (*āsana*, VIII.3.93); and *parpa* a wheeled-chair for disabled persons (IV.4.10). One using a *parpa* was called *parpika*, evidently same as *pīṭha-sarpī* of the *Vājasaneyī Saṁhitā* (XXX.24), Manu (VIII.394) and the *Jātakas*.

UTENSILS—Of these Pāṇini mentions (1) *pātra*, a vessel (VIII.3 46); *kumbha*, a big jar (VIII.3.46); (3) *kaṁsa*, a pot or vessel of bell-metal (cf. *Vedic Index*, I.130) which owing to its fragility attracted the attention of the Greeks as breaking, if it fell, like earthenware (cf. *Nearchus*, Frag. 7, *Strabo*, XV); (4) *kuṇḍī*, a bowl in different sizes of stone or wood (IV.1.42; also called *amatra* by Pāṇini); (5) *sthālī*, a cooking pot (V.1.70), from which was derived the phrase *sthālībilīya*, applied to a dainty article of food; (6) *ukhā* frying-pan (IV.2.17), a Vedic term (*Vedic Index*, 1.83); (7) *kalaśi*, a small pitcher or vessel (IV.3.56); (8) *kapāla*, *śarāva*, earthen pots (VI 2.29) and pots of different shapes for holding water (*udaka-pūrayitavya*, VI.3.59), all coming under the term *kaulālaka*, pottery (IV.3.118), on account of

1 *Āsandī* (settee) is an old Vedic word. Pāṇini uses *Āsandīvat*, which was also the name of the royal city of Janamejaya (*Vedic Index*, I.72), so called because of its 'possessing the throne.' The *Kāśikā* equates Āsandīvat with Ahisthala (VIII.1.12).

their being made by a *kulāla* or potter. Pottery has from time immemorial played an important role in the domestic economy of India, specially at communal feasts. Indian pottery with its long history reaching back to the age of Mohenjodaro reveals a surprising range of shapes, sizes and designs—worthy of illustration in a Corpus. At one end of this series stands the giant *kusūla* (VI.2.102) and at the other the tiny *śarāva*, or bowl (VI.2,29).

Other household articles included the winnowing basket (*śūrpa*, V.1.26), the churning stick (*mantha*, also called *vaiśākha*, V.1.110)[1] and spits for roasting meat (*śūla*, IV.2. 17).

CONTAINERS—Pāṇini refers to leathern containers of big and small sizes called *kutū* and *kutupa* respectively (V.3.89), used for storing oil and ghee (*charmmamayaṁ sneha-bhājanaṁ, Kāśikā*) ; to *udaṅka*, oil-flasks (III.3.123), the opposite of which was *udañchana*, a big leathern bucket for lifting well-water ; and to *dṛiti* (IV.3.56) and *bhastrā*, (IV.4.36). *Dṛiti*, a leather bag for holding fluids is frequently mentioned in the Vedic literature. Pāṇini derives *dārteya* to denote that which was filled in a leather bag (*tatra bhavah*, IV.3.53). We learn from the *Panchaviṁśa Brāhmaṇa* that milk (*kshīra*) and liquor (*surā*) were kept in *dṛitis*[2]. At present it is generally used to hold water. In Pāṇini's time *dṛitis*, leather bags, were transported on the back of animals which were therefore marked out as *dṛitihari* (III.2.25). This device of tranporting liquids was preferred in mountainous regions where wheeled traffic was difficult.

BHASTRĀ (IV.4.16)—In the *Śatapatha Brāhmaṇa* (I.1.2.7 ; 6.3.16) *bhastrā* denotes a leathern pouch. Pāṇini derives

1 *Vaiśākha* as a synonym of *mantha* still persists in the Hindi word *baisākhi* denoting the crutches of a lame person which exactly resemble an upturned churning stick.

2 *Surā-dṛitinā upavasathaṁ dhāvayati*, *P. Br.* XIV.11.26 ; *Sakshira-dṛitayo rathā bhavanti*, *P. Br.* XVI. 13.13.

bhastrika in the particular sense of one who *conveys* with a *bhastrā* (IV.4.16). The *bhastrikas* seem to have formed a special class of carriers engaged in river-transport by means of skin bags. The use of *bhastrā* extended to the north-west where the people used its variant form as *bhastrakā*, instead of *bhastrikā* (VII.3.47).

Goṇī is mentioned as a container or sack (*āvapana*) made from *goṇa* (IV.1.42), obviously a cloth. It is unknown in the Vedic literature, but occurs in the *Brahmajāla Sutta* XV as *goṇaka*, explained as a woollen cloth made from the hair of long-haired goats. It was probably the same as *kaunakes*, one-piece loin cloth worn by the early Sumerians and the Accadians, and made of suspended loops of wool hanging from a woollen skirt (Marshall, *Indus Valley Civ.*, I.33,342 ; pl. 95, fig. 10). The word seems to have travelled to India through commerce in pre-Pāṇinian times.

We are enabled to make some idea of the use of *goṇī*, as it is still known by its old name (cf. Hindi *gaun* or *gonī*) and used to carry grain, salt, etc. an pack animals. Pāṇini knows of *goṇī* in two sizes, bigger, which was also the standard size, called *goṇī* itself, and smaller *goṇītarī*. The former was naturally used to load on mules and asses and the latter on goats and sheep. The standard one also served as an article useful for barter, as shown by the *Kāśikā* on the *sūtra Id-goṇyāḥ* (I.2.50) mentioning a piece of cloth purchased for 5 or 10 *goṇis* (*pañchabhiḥ goṇībhiḥ krītaḥ paṭaḥ pañcha-goṇiḥ* ; *daśagoṇiḥ*).

VIVADHA (IV.4.17), *VĪVADHA*[1] (VI.3.60)—This was a device to carry loads suspended from the ends of a pole by professional carriers, and is still in use. Drinking water from the village well was carried in this manner by persons called *udaka-hāra* and *udahāra* (VI.3.60, modern *kahār*). The *vīvadha* hung from their shoulders containing pitchers

1 both long and short forms are used by Pāṇini himself, and hence Patañjali reads the long form *vīvadha* also in *sūtra*, IV.4.17. Another equivalent of *vivadha* was *vihaṅgikā* (*bahāgī* in Hindi).

full of water was called *udaka-vivadha* or *udavīvadha* (VI.3.60). Kauṭilya uses *vīvadha* in the technical sense of supply or transport (*Arth.* XII.4, p. 388 ; Trans. p. 417).

STORAGE—Pāṇini refers to several forms of storage vessels in *sūtra*, VI.2.102, for example (1) *kusūla*, a large cylindrical vessel for storage of grain, made of earth and rising to more than a man's height with a capacity to hold 15 to 20 maunds ; (2) *kumbha*, a big earthen jar with a narrow mouth ; (3) *kūpa*, a form of storage resembling a well and consisting of a series of earthen rings arranged one above the other ; and (4) *śālā*, a masonry structure or store-room specially built for the purpose. The opening near their bottom for taking out corn was called *bila*.

CH. III, SECTION 12. CONVEYANCES

The means of transport are referred to as *vahya* (III.1.102) or *vāhana*, which was of two kinds, *viz.* vehicles for carrying load on land (as in the *sūtra* *Vāhanam āhitāt*, VIII.4.8.), and means of transport in water called *vāhana* or *udv-vāhana* (VI.3.58). The name of the load-bearing cart was specified according to the nature of its load (*āhita*), *e.g.* *ikshu-vāhaṇa*, *śara-vāhaṇa*, *darbha-vāhaṇa*. *Śakaṭa* denoted the waggon for carrying goods, with sturdy bulls called *śākaṭa* (IV.4.80) yoked to it. (Cf. *Vedic Index*, II.345). Patañjali refers to caravans of carts (*śakaṭa-sārtha*) passing along highways (III.2.115 ; II.120). In Buddhist literature numerous references to merchants conveying their goods and merchandise across the country, in caravans of 500 carts are met with, indicating the growing importance of wheeled traffic (*śakaṭa*) for transport of heavy goods.

CHARIOT—*Ratha* (IV.2.10 etc.) was the more aristocratic conveyance. A collection of chariots is referred to as *rathyā* and *ratha-kaṭyā* (IV.2.50-51). The use of chariots for army was also known. Pāṇini refers to the divisions of an army (*senāṅga*, II.4.2), which according to the commentary included chariot-men and horsemen (*rathikāśvāroham*).

Several kinds of chariots were known, each named after the draught animal yoked to it (IV.3.122). On this Patañjali mentions chariots drawn by horses (*āśvaratha*), camels (*aushṭra-ratha*) and asses (*gārdabha-ratha* ; *Bhāshya*, II.318).[1] Naturally the wheel and other parts of a camel-chariot must have differed in dimension from others to suit the size of the yoked animal. The carpenter's vocabulary must have expressed this distinction by appropriate terms

1 The *Mahāniddesa* refers to *aṭṭha* and *khara yānas* and *Jāt* VI. 355 to *assatarī ratha*. Cf. *Conveyances* by G. P. Majundar, *Indian Culture*, Vol. II.277. Also *Vedic Index*, II.202, for horses, asses and mules yoked to chariots.

derived from the name of the draught-animal, and Pāṇini makes a provision in *sūtra* IV.3.122, *Patra-pūraād añ*. For example, a pair of wheels was labelled variously as *āśva-ratha-*, *aushtra-ratha-* or *gārdabha-ratha-chakra* (*Pat.* II.318 and *Kāśikā*) according to the kind of chariot for which it was required.

Pāṇini refers to the various parts of a chariot (*rathāṅga*) under the name of *apaskara* (VI.1.149). According to a *vārttika* on IV.3.121, *rathya* denoted parts of a chariot, as wheel, axle, etc. This special term derived from *ratha* seems to have been required in the cartwright's vocabulary to distinguish the chariot-parts from those of a cart, which were neither so costly nor so nicely built.

Upadhi denoted the part of a wheel between the nave and the circumference to which spokes were fitted. The cartwrights take special care in the selection of wood to make *upadhi* and hence the special word *aupadheya* (V.1.13) became current. The axle is called *aksha* (V.4.74). In *sūtra* VI.3.104 Pāṇini refers to *kāksha* in the sense of an inferior (*kutsita*) axle. The inferiority may be due to diminution in its standard length, which according to the *Śulba Sūtra* of Āpstamba was 104 *aṅgulas* (=78 inches, or 6½ ft.) (*Vedic Index*, II.206). Pāṇini also refers to inferior chariots (*kad-rathas*, VI.3.102), being below the standard size. As against this, were the *parama-ratha* (superior chariots), implied in *sūtra* IV.3.121, both on the authority of Kātyayana and Patañjali (*Bhāshya*, I.1.72, *vārt.* 16, I.186). According to the *Āpastamba Śulba Sūtra* the dimensions of a chariot of standard size were: pole=188 *aṅgulas*, 11¾ ft; axle=104 *aṅgulas*, 6½ ft.; yoke=86 *aṅgulas*, 5 ft. 4½ inches (*Āpastamba ŚulbaSūtra*. Mysore edition, p. 95 ; *Vedic Index*, II.203). The epithets *kad-ratha* and *parama-ratha* became current in relation to some such specification of standard size.

CHARIOT-UPHOLSTERY—After fabrication, the chariots were upholstered (*Parivṛito rathaḥ*, IV.2.10) of which the *Kāśikā* mentions three varieties, *viz.* *vāstra*, *kāmbala* and

chārmaṇa, i.e. mounted with cloth, blanket and leather. Chariots covered with a special woollen stuff known as *pāṇḍu-kambala*[1] were called *pāṇḍu-kambalī* (IV.2.11). According to the *Vessantara Jātaka*, *pāṇḍu-kambala* was a kind of red-coloured blanket imported from Gandhāra (*Vessantara Jātaka*, VI.500, *Indagopaka-vaṇṇābhā Gandhārā paṇḍu-kambalā*), which, as the commentary adds, were of red colour and used for the army ((*Jāt. Commentary*, Vol. VI. p. 501, *Gandhāra raṭṭhe uppannā satasahassagghanikā senāya pārutā ratta-kambalā*).

Leopard and tiger skins were also in use for special upholstery, the chariots so covered being called *dvaipa* and *vaiyāghra* respectively (IV.2.12). The earliest reference to *vaiyāghra* chariots used in the ceremony of royal consecration is found in the *Atharvaveda* (*Vyāghro adhi vaiyāghre vikramasva*, IV.8.4). It is interesting to note that like *pāṇḍu-kambala* the *dvipa* and *vaiyāghra* chariots also had become popular in the epics and the *Jātakas*. A verse in the *Vessantara Jātaka* records the gift of 700 such conveyance by prince Vessantara (*Satta rathasate datvā...dipe atho pi veyyagghe*, *Vessantara Jātaka*, VI.503), which the commentary explains as *dīpichamma vyagghachamma-parikkhitte*.

The Mahājanaka Jātaka refers in a song to artistically decorated *dīpa* and *veyaggha* chariots (*Jāt.* VI, pp. 48-50). It appears that chariots so upholstered were intended for royalty. Rāma mounts the *vaiyāghra* chariot on the eve of his proposed consecration as heir-apparent (*Rāmāyaṇa*, II.16. 28). Among the presents brought to Yudhishṭhira by kings of the Prāchya country were included *vaiyāghra* chariots valued at 100 *kārshāpaṇas* (Sabhāparva, 51.33, *vaiyāghra-parivārita-ratha* and 61.4, *sahasra-samita vaiyāghra-rāja ratha*). The scabbard of Bhīmaseana is spoken of as *vaiyāghra kośa* (*Mahābhārata*, Virāṭa-parva, 38.30, 55, Poona edition).

1 *Pāṇḍukambala* occurs in *Sasa Jātaka* (Vol. III. p. 53, *Paṇḍukambala-silāsanam*, rocky seat of Indra covered with *pāṇḍu-kambala*). Cf. also *Jātaka*, VI.515, for Vessantara's elephant covered with *pāṇḍu-kambala*, showing the wide use of this stuff in the Jātaka period.

A chariot suited for rough use on all kinds of roads was, called *sarvapathīna* (V. 2.7). Among different classes of roads Kauṭilya specially mentions one called *rathapatha* being $7^1/_2$ ft. wide (*Arth.* Text, II. 4., p. 54).

RUNNING FOOTMEN—In *sūtra* VIII. 3.75, Pāṇini states that the word-form *pariskanda* is current in the usage of the eastern people and of the Bharata *janapada*.[1] It implies that in the idiom of the Udīchyas it was called *parishkanda* (cerebralised from), which occurs five times in the Vrātya hymn of the *Atharvaveda*. *Pariskanda* denoted running foot-soldiers one each side of a war-chariot (*Vedic Index*, I.497)[2], who are referred to as *chakra-raksha* in the Bhīshmaparva (18.16).

A TERM OF CART-WRIGHTS—*Sutra* I. 4.78, *Prādhvaṁ bandhane*, implies several stages in the making of carts and chariots. The idiom *prādhvaṁ kṛitya*, 'tying with cords,' refers to the final phase through which each vehicle has to pass in the process of manufacture before it becomes road-worthy. The carpenter first proceeds to prepare the different parts of a chariot (*rathāṅga*) one by one, as wheel, axle, pole, yoke, etc., and then assembles them together. Patañjali says that the parts of a chariot lying singly are not fit for locomotion and that only when they are assembled as chariot they contribute to movement (*vraja*, to move)[3]. After the frame-work is ready, the third process is to mount it with upholstery. The fourth stage is that of binding the parts with cords to keep them tight together. This is generally done, not by the car-maker but by the buyer at his place. A cart or chariot, even though all its

1. *Pariskandaḥ Prāchya-Bharateshu*. In taking Prāchya and Bharata separately, I follow Patañjali on *Pāṇ*. II. 4.66 (I. 493).

2. In the *Atharva*. XV. 2.6. *et seq.* the form is dual; but *Tattiriya Br.* III. 4.7.1, has singular, *Bhumne parishkandam* (*paricharakam*, Bhatta. Bhāskara).

3. *Yathā tarhi rath-āṅgāni vihritāni pratyekaṁ vraji-kriyām praty-asamarthāni bhavanti, tat-samudāyaścha rathaḥ samarthaḥ. ...Bhāshya*, 1.2.45 ; 1.220.

parts be ready, is not considered road-worthy, unless it has undergone this stage of cording (*bandhana*). Therefore the phrase *prādhvaṁ-kṛityā*, literally 'having made it road-worthy,' has the meaning of *bandhana*. The counter-example *prādhva-kṛitvā* is derived from a chariot already in use, but which gets out of order and stranded, and then subsequenly repaired and put on the road.[1] According to Pāṇini *prādhva* (V. 4.85) is that which is 'road-worthy' (*prādhva-ratha, prādhva śakaṭa*).

1 Cf. *Kāśikā, prādhvaṁ kṛitvā śakaṭaṁ gataḥ*......The grammatical interest rotates round the *gati saṁjñā* of *prādhvaṁ* in the sense of 'fastening' and its absence in the latter case. The effect of *gati saṁjñā* is to two-fold, *viz.* the compound and *lyap* suffix in *prādhvam-kṛitya*.

CH. III, SECTION 13. DRAUGHT-ANIMALS

A draught-animal is referred to by the peculiar term *patra*, from root *pat*, to move (III.1.121; IV.3.122-123). An animal fit to be yoked is called *yugya* (III.1.127). In the *Tad-vahati* section (IV.4.76-81) Pāṇini classifies animals on the basis of their being yoked to different vehicles and their capacity to draw various loads, as (1) *rathya*, bulls to draw chariots (IV.4.76); (2) *śākata*, bulls for carts (IV.4.80); (3) *hālika* and (4) *sairika*, bulls for ploughs (IV.4.81). These distinctive terms were used in connection with the care and quantity of rations prescribed for the animals of each class, as we find in Kauṭilya (*Arth.* II 29, p. 131).

There are some bulls whom the drivers can yoke on both sides alternately, that is both on the right or left side of the pole. These were called *sarva-dhurīṇa* (IV.4.78) (*dhura*, frontal pole, *Jāt.* I.192). There are others who can be yoked on one side only, such being termed *eka-dhurīṇa*, the right one called *upurāl* in Hindi and the left one *tarwāl*.

We have already referred to various kinds of chariots (IV.3.122) drawn by different animals, as horse, camel, ass or bull, who must have been yoked in even numbers as two, four, etc. In addition to them sometimes a leader was yoked in front and called *prashṭha* (*Prashṭho' yragāmini*, VIII.3.92), for which the Vedic term was *prashṭi*, the epithet *prashṭivāhana* or *prashṭivāhin* being used for such a chariot (*Vedic Index*, II.42). In Bharhut, Sanchi and Mathurā sculptures, the chariots are drawn only by two or four horses or bulls, without a *prashṭha*.

Pāṇini refers to bull-riders (*go-sāda*, and *gosādin*, VI.2.41), camel-riders (*ushṭra-sādi*); to mounted officers (*yuktārohin*, VI.2.81), probably couriers or cavalrymen; to charioteers (*sārathi*, VI.2.41); to reins (*pragraha*, *raśmi*, III.3.53); to expert bull-drivers (*gosārathi*, VI.2.41); and others

competent to drive all kinds of animals (*sarvapatrīṇa*, V.2.7).

ĀŚVĪNA—*Āśvīna* (*aśva* + *khañ*) denoted the length of journey made in one day by a horse (*Aśvasy-aikāhagamaḥ*, V.2.19).

In the *Atharvaveda* (VI.131.3) the *āśvīna* distance is mentioned immediately after 3 or 5 *yojanas* and appears to have exceeded the latter (*Vedic Index*, I.70). The *Arthaśāstra* defines precisely the *āśvīna* distance, as it was needed to calculate the travelling done by Government servants, and for determining the marches of cavalry or other post-chaise arrangements.

The *āśvīna* distances in the *Arthaśāstra* are as follows:—

Quality of horse	*Chariot-horses*	*Riding horses*
Average	.. 6 *yojanas* = 31 miles	5 *yojanas* = $25\frac{1}{2}$ miles
Middle	.. 9 *yojanas* = 46 miles	8 *yojanas* = 41 miles
Best	.. 12 *yojanas* = 61 miles	10 *yojanas* = 51 miles

A *yojana* was equal to $5\frac{5}{44}$ miles.

(*Arthaśāstra* Trans. p. 147 ; Text, II.30, p. 134).

Thus the minimum length of one day's horse-journey in the *Arthaśāstra* is 5 *yojanas* for a saddle horse of ordinary quality and 6 *yojanas* for a carriage horse. The *āśvīna* distance in the *Atharvaveda* was more than 5 *yojanas*, *i.e.* somewhere between 6 and 8 *yojanas*. According to Patañjali, the distance travelled by an average horse (*aśva*) was 4 *yojanas* and by a superior horse (*aśvatara*, V.3.55 ; II.413) 8 *yojanas* (*aśvo'yaṁ yaśchatvāri yojaśnāni gachchhati, aśvataro' yaṁ yo'ashṭau yojanāni gachchhati*).

CH. III, SECTION 14. WATER TRASPORT

Pāṇini refers to navigable rivers like the Sindhu, and also to *samudra* or ocean (IV. 4.118). He knows of two kinds of islands, viz. (1) near the sea-coast (*anu-samudra*), and (2) in the main ocean. Goods imported from the former were called *dvaipya*, and from the latter *dvaipa* or *dvaipaka* (IV. 3.10).

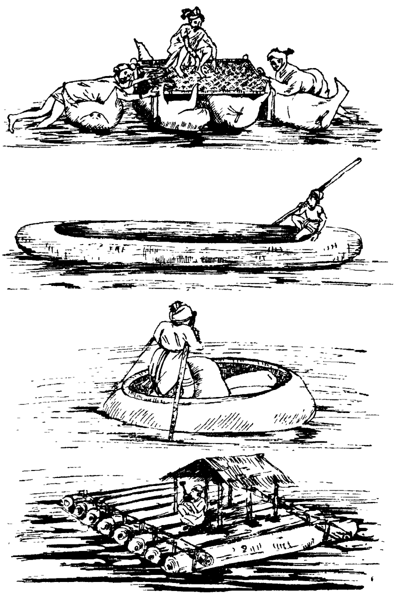
Boats are called *nau* (V. 4.99), and also *udaka-vāhana* or *udavāhana* (VI. 3.58); oarś *aritra* (III. 2.184); and a boatman, *nāvika* (*nāvā tarati*, IV. 4. 7).

Pāṇini refers to a boat-ferry as *nāvya* (IV. 4.91), same as *nāva-tittha* (*Jāt.*, III. 330). A ferry on the Indus was located near Pāṇini's own home in Śalātura, as stated in a later inscription (*Śala-no-krama*).[1] The Indus near this place is crossed by a boat-bridge for eight months of the year, and for the remaining four months the passage is effected by a ferry (*Imp. Gazetteer*, Vol. 1.382).

The worth of merchants was assessed in term of the number of shiploads of merchandise, *e. g.*, *dvināva dhana*, a merchant having two cargo boat (*Nāvo-dviyoḥ*, V. 4.99; *Kāśikā*). One who was sailing with five ship-loads was called *pañchanāva-priya*. A shipment arriving with two cargo boats was designated as *dvināva-rūpya*.

Supposing a full consignment of riverine trade was comprised of a hundred boats, it would happen that at important landing places, the cargo of some of these boats was unloaded and disposed of by exchange with other local goods, which latter were reladen on the boats. Such transactions are referred to by the *Kāśikā* as *pañchanau*, *daśa-nau* (*pañchabhiḥ naubhiḥ krītāḥ*; V. 4. 99). A trader would own either the whole cargo boat or was sharing only

1. Sten Known, *Corpus of Kharoshthī Inscription*, Shakardarra Well Inscription, p. 159. An ancient copy of this inscription is now deposited in the Mathura Museum.



TYPES OF BOATS Bhastrā (*inflated skins*) Pitaka (*coracle*) Utsanga (*cumba*)
Bharata (*float of wood*)

a part of its merchandise. The cargo of 'half-a-boat' as well as its sale proceeds would be called *ardha-nāva* (*Ardhāchcha*, V. 4.100).

Pāṇini also refers to another popular method of water transport called *bhastrā*, a raft of inflated skins ; one who carried goods in this way was called *bhastrika* (IV. 4. 16; *Bhastrayā harati*). This method of crossing is frequently resorted to in the flooded rivers of the Punjab, the N. W. F.-P., and Afghanistan and is considered the safest and quickest (see *Imp. Gaz.*, N. W. F.-P., pp. 117-118).[1] In Persia also the Behistun Ins. refers to "floats-of-skin" (*mashkākhuvā*) used by Darius. Examples are seen sculptured on Assyian panels from Sennacherib's palace and Herodotus also mentions this cargo-raft on the Tigris.[1]

In the previous *sūtra Haratyutsaṅgādibhyaḥ* (IV. 4.15) reference is made to transporting by means of *utsaṅga*, a kind of small dug-out float, called *chaṅg* in Sindh, similar to the Roman *cumba*, a small boat made originally from the hollow of a tree and used on rivers and lakes by fishermen ; *uḍupa*, another small boat shaped like the half-moon (cf. Hindi *ḍongī*) *utpala*, probably a longish fishing boat ; and *piṭaka*, a basket-like coracle made of weeds and rushes covered with leather.

1. In Baltistan such contraptions are called *zak* (from Tibetan *yak* skins). A *zak* is now a raft of sewn-up goat skins, on leg of each left open for inflation. The skins are tied to a platform of sticks or have a fisherman's net spread on them on which the passengers travel at the rate of eight miles an hour, the Shighar *zak* consisting of four rows of four skins. In the Panjab a rude raft is made by tying together two inflated bullock-skins, with a *charpoy* on it for passengers. The rafts are so light that on reaching a downstream destination the crew merely pick them up and walk back along the bank with them. For the skin-raft (*bhastrā*), coracle (*piṭaka*), dugout float (*kāṇḍa-plava*, *Kāśikā*, IV. 4.5), see Hornell, Primitive Types of Water Transport in Asia, *J. R. A. S.*, 1946, pp. 124–141.

SPORTS KRĪḌĀ)—The following are some of the sports (*krīḍās*) mentioned by Pāṇini : (1) wrestling, (2) jousts, (3) hunting, (4) dicing, (5) garden pastimes, and (6) musical entertainments.

Sport was called *krīḍā* (Vt.2.74 ; IV 2.57). A sportsman *ākrīḍī* (III 2.142), and the different parts of the play had their own names, *e. g. anukrīḍā, saṁkrīḍā, parikrīḍā* and *ākrīḍā* (I.3.21).

SAMAJYĀ—Pāṇini refers to *samajyā* (a *saṁjñā* in III.3 99) which Kātyāyana and Patañjali explain as a place where people flock together (*samajanti tasyāṁ samajyā, Bhāshya*, II.152). We are indebted to the *Jātakas* for information *samajjās* (= *samajyā*) were special gatherings 'where crowds of men, women and children gathered together and witnessed various kinds of shows and performances, like dancing and music, combats of elephants, horses and rams, bouts at quarterstaff (*daṇḍehi yuddhaṁ*) and wrestling.' (R. L. Mehta, *Pre-Buddhist India*, p. 355). The *Vidhurapaṇḍita Jātaka* refers to *samajyā* gatherings of men and women, and seats arranged in tiers upon tiers (*mañchātimañche, Jāt.* VI. 277). The *samajyā* gatherings formed a regular feature of social life in the Mahājanapada period.

Pāṇini also refers to assemblies under the general name of *samavaya* (IV.4.43), which according to the commentators included *samāja*. A cattle-fair was known as *samāja* (III.3.69), distinguished from a human assemblage (*samāja*), as stated above. Pāṇini explains *sāmājika* in two senses : (1) who attends a *samāja* as its member to witness its games, and (2) the convener of a *samāja* (IV.4.43 and IV.4.33, *rakshati* of the latter being taken as 'running' a *samāja* by organizing it). *Samāja* and *samajyā* appear to be synonymous terms, the first of wider meaning including reli-

gious gatherings also. Aśoka interdicted the popular *samāja* as not promoting morals.

WRESTLING—Pāṇini refers to the term *saṅgrāha*, i.e. gripping in wrestling (*Sami mushṭau*, III.3.36). Kātyāyana points out that *saṁgrāha* does not mean 'palm-ful' as taken by some. Patañjali's gloss is *mallasya saṅgrāhaḥ mushṭikasya saṅgrāhaḥ* (grip of a wrestler). The *Jātaka* calls a wrestler *muṭṭhika* (*Jāt*. VI.277). Wrestling begins with a challenge (*āhvāna*, I.3.31 ; *mallo mallam āhvayate*,), which is answered by a responsive action (*karma-vyatihāra*.).

JOUSTS—Pāṇini mentions a joust as *praharaṇa-krīḍā*, 'a pastime with weapons.' The name of the sport takes after the weapon used in it as prescribed in the *sūtra Tadasyāṁ praharaṇam iti krīḍāyām ṇaḥ* (IV.2 57). The *Kāśikā* cites as examples *maushṭā* (boxing) and *dāṇḍā* (*lāṭhī*-play). The *Sarabhaṅga Jātaka* describes sports of archery with such feats as arrow-stick, arrow-rope, (*Jāt*. V.130, *sara-laṭṭhi*, *sara-rajju*, *etc*.)

THE EASTERN SPORTS—Pāṇini knows of the sports of Eastern India (*Prāchāṁ krīḍā*, VI2.74), for which he frames proper grammatical formations (II.2.17, sport-denoting words form a *nitya* compound, with *ṇvul* suffix). As examples the *Kāśikā* mentions the following : *Uddālaka-pushpa-bhañjikā*, *Vīraṇa-pushpa-prachāyikā*, *Śāla-bhañjikā*, *Tāla-bhañjikā* (*Kāśikā* on VI.2.74, III.3.109 and II.2.17). Rule VI.2.74 regulating the accents in the compound-names of these sports shows that Pāṇini was acquainted with the institutions of social life and national sports of the remote regions of eastern India.

THE NATURE OF EASTERN SPORTS—Some of these sports relating to the plucking of flowers (*prāchya-krīḍās*) are illustrated in early Indian art. According to Dr. Vogel : "It is interesting that these games are said to be peculiar to Eastern India, as this tallies with the mention of the *Śāla-bhañjikā* festival in Buddhist literature. It is evidently Magadha, the cradle of Buddhism, and the neighbouring countries, that may be taken to have been its home."

(The Woman and Tree or Śālabhañjikā in Indian Literature and Art, *Acta Orientalia*, Vol. VII. pp. 203-204).

A graphic accout of these popular festivals is found in the *Avadānaśataka*: "Once the Lord Buddha dwelt at Śrāvastī in the Jetavana, the garden of Anāthapiṇḍada. Now at that very time the festival called *Śālabhañjikā* was beings celebrated at Śrāvastī. Several hundred-thousands of beings assembled there and, having gathered *śāl* blossoms, they played, made merry and roamed about." (*Ibid.* p. 201). And again quoting from the Nidānakathā (*Jāt* I.52) the description of the *śālabhañjikā* festival celebrated in the Lumbinī garden: "Now between the two towns (Kapilavatthu and Devadaha) there is an auspicious grove of *śāl* trees belonging to the people of both cities, and called Lumbinī Grove. At that time from the roots to the topmost branches it was one mass of full-blown flowers; and amidst the branches swarms of five-coloured bees, and flocks of birds of different kinds, roamed, warbling sweetly. The whole of Lumbinī Grove was like a wood of variegated creepers, or the well-decorated banqueting hall of some mighty king. The Queen beholding it was filled with the desire of disporting herself in the *śāla* grove (*śālavanakīlaṁ kīlitukāmatā*); and the attendants entered the wood with the Queen. When she came to the root of an auspicious *śāla* tree, she wanted to take hold of a branch of it. The branch, bending down, like a reed heated by steam, approached within reach of her hand. Stretching out her hand she took hold of the branch, and then her pains came upon her." (Cf. Rhys Davids, *Buddhist Birth Stories*, London 1880, Vol. I, p. 66).

The motif of the woman plucking flowers from a distended bough is met with on the *toraṇas* of Bharhut and Sānchi in the Śuṅga period and is continued on the railing pillars of Mathurā during the Kushāṇa period. It also appears in a limited number of examples in Gandhāra art of the Kushāṇa age, but the weak treatment of the subject there betrays its having been imported from the East. We have in the *Kāśikā*, an example of a game played by people

of the North known as *Jīva-putra-prachāyikā*.[1] Vātsyāyana in the *Kāmasūtra* mentions as examples of *deśya krīḍās* (local sports) similar names ending in *aka* suffix, *e.g.* *Sahakāra-bhañjikā*, *Abhyūsha khādikā* (cited by *Kāśikā*, on III 3 109), *Udaka-kshveḍikā*,[2] *Bisa-khādikā*, *Aśokottaṁsikā*, *Pushpāvachāyikā*, *Chūta-latikā*, *Damana-bhañjikā*, *Ikshu-bhakshikā*, etc.

A feature of all such sports played by the gathering of fruits or plucking of flowers was that the plucking should be done by hand (*hastādāne cheraasteyc*, III.3.40) According to this rule the form *pushpa-prachāya* would not be regular unless the plucking was done by hand.

HUNTING—Hunting is referred to as *lubdha-yoga* (V.4.126), and a hunter was called *mārgika*, 'one who shoots *mṛigas*, and a bird-trapper *pākshika* or *śākunika* (IV.4.35).[3] Among *mṛigas* the *Kāśikā* includes not only deer, but also big game like the boar. The fowlers are said to have derived their epithets from the names of particular birds trapped by them, as *māyurika*, *taittirika*. Game-shooting was done with arrows provided with barbs (*patra*), and such arrows are noted by Pāṇini to have caused extreme pain (*ativythana*, V.4.61). He refers to two words in connection with shooting barbed shafts, *viz.* *sapatrā* when the arrow with the barbed end gets stuck inside the body of the animal, and *nishpatrā* when the barbed end pierces the body from one side with such force as to emerge on the other (V.4.61). Wounding an animal in the right flank was known as *dakshiṇermā*[4] (V.4.126) in the hunter's slang (*lubdhayoga*). It was less fatal than the shot in the left side, and hence the need of the term in the language, for it was of some consequence to the hunter to know whether the game had been pierced in the right or the left flank.

1 *Iyam Udichām*, *krīḍā*, *Kāśikā*, VI.2.74.
2 Played in Madhya-deśa according to *Jayamaṅgalā*. It is depicted in the Sigiriya paintings of Ceylon called *Sṛiṅga-krīḍā*.
3 *Pakshi—matsya—mṛigān hanti*, IV.4.35.
4 *Īrma* denoting 'arm, side, haunches, forequarters' was an old Ṛigvedic word (RV. VIII.2.24).

Pāṇini knows of the habits of big game roaring or yelling at a particular time of day or night (IV.3.51, *Vyāharati mṛigaḥ*), as shown in the expression (1) *prādoshika* (at dusk) and (2) *naiśika* (at night). [Cf. Karṇaparva, 31. 40, *kravyādā vyāharantyete mṛigāḥ kurvanti bhairavam*].

The hunters moved with a pack of hounds (*Śva-gaṇena charati*, IV.4.11). Pāṇini's *śvāgaṇika* or *śvagaṇika* anticipates the *śvagaṇin* hunters mentioned in the *Arthaśāstra*, who were employed by the State to keep the pastures free of wild animals and thieves (*lubdhaka-śvagaṇibhiḥ*, II. 29 p. 130). In a Bharhut scene we actually find a hunter attacking his game with hounds (Barua's *Barhut*, Vol. III, fig. 146).

The fisherman is referred to as *mātsyika* and *mainika* (IV.4.35). His equipment consisted of a net called *jāla* and *ānāya* (III.3.124).

DICING (AKSHA-DYŪTA)—Dicing is mentioned as a game from the time of *Ṛigveda* onwards. It is referred to as *akshadyūta* (IV.4.19) or simply *dyūta* (III.3.37) in the *Ashṭādhyāyī*. Pāṇini records a grammatical idiom according to which the words denoting the objects with which the game was played were connected with the verb *div* either in the instrumental or accusative case (I.4.4, *Divaḥ karma cha*). For example '*akshān dīvyati* and *akshair dīvyati*' (he plays with dice) were both used, probably from the fact that the game and its accessories of play were both called *aksha*.

Pāṇini calls a dicer *ākshika* (*Tena dīvyati*, IV.4.2). Patañjali says that *kitava* and *dhūrta* formed part of the *Śauṇḍādi* group (II.1.40) and he refers to a practised gambler as *aksha-kitava* and *aksha-dhūrta* (*Bhāshya*, I.390). *Kitava*, 'a gambler,' was an old Vedic word (*Vedic Index*, I.156-7), used also in the Buddhist literature (cf. *aśippa dhuttaka* and *sikkhita kitava*, *Jāt.* VI.228; also *Dhammapada*,

verse 252) and the *Mahābhārata* (Sabhāparva, 58.9).[1]

ACCESSORIES OF PLAY—Pāṇini refers to two distinct methods of the game, *i.e.*, one played by *akshas*, aad the other played by *śalākās* (II.1.10). A player with the former was called *ākshika* and with the latter *śālākika* (cf. *Kāśikā* on Pāṇini, IV.4.2). The *Arthaśāstra* also refers to both of these, stating that the Superintendent of Dicing shall supply *aksha* and *śalākā* to the players (*Artha*. III.20. p. 198). The *akshas* seem to have been cubical and the *śalākās* oblong pieces marked on the sides with points or numbers In the representation of the gambling scene at Bharhut the *akshas* are shown as little cubes (Cunningham, *Stupa of Bharhut*, pl. XLV).

The manner in which the game was played in olden days differed from that current today. At present only two pieces are used. But in ancient times the number of dice was five, at least so in the Brāhmaṇa period. In the *Taittirīya Brāhmaṇa* it is said that 'he hands to the king five dice, for these are all the dice' (*Tait. Brāh.* I.7.10). These pieces were called Aksharāja, Kṛita, Tretā, Dvāpara and Kali (*Vedic Index*, I.3). The game as it was known to Pāṇini must have been played with five dice pieces as the form *chatushpari* 'an unlucky throw by four' (II.1.10) shows. The *Kāśika*, Chandra and Kaiyaṭa agree that the game implied in *sūtra*, II.1.10 was *pañchikā dyūta*.

METHOD OF PLAY—Pāṇini throws light on the method of play in the following :

Aksha-śalākā-saṁkhyāḥ pariṇā (II.1.10).

The words *aksha* and *śalāka* and the numerals (up to four) are compounded with *pari* to form an *Avyayībhāva* compound, when, as observed by Kātyāyana, the resultant

1 '...*kitava* is used here in the usual sense of "*gambler*" without any special pejorative meaning.' (K. de Vreese, "The Game of Dice in ancient India (The Vibhitaka Game)," *Orientalia Neerlandica, Lieden* (1948), p. 352. The interpretation of *kitava* by "cheat" does not suit the context.

words denote gambler's throws (*kitava-vyavahāra*, *vārt.* on II. 1. 0). Thus we have the following forms:

1. *Aksha pari;*
2. *Śalākā-pari;*
3. *Eka-pari;*
4. *Dvi-pari;*
5. *Tri-pari;*
6. *Chatush-pari.*

The forms were used to indicate a deviation from the winning throw. The *Pañchikā* game was played with five dice or five ivory pieces. When all these five pieces fall with faces turned upward, or all with faces turned down, then the thrower wins the game. But when the fall is otherwise, he loses (*Kāśikā* on II.1.10). For example, when four pieces fall alike and one is different, the dicer exclaims: *Akshapari !*, *Śalākāpari !*, *Ekapari !*, i.e. missed by a single *aksha* or by a single *śalākā*. The expression *ekapari* was synonymous with *akshapari* and *śalākāpari* as shown in the *Kāśikā* cited in *Bhāshya* (*ekatve'ksha-śalākayoḥ*, I.379). If the throw fell amiss by two, it was called *dvi-pari*; if 'by three', *tripari*; and if 'by four,' *chatushpari*. When all the five pieces fell uniformly the throw was called a winning throw of which the technical name was *Kṛita*. The name for the losing throw was *Kali*. According to the *Dhammapada* a deceitful player (*kitavo saṭho*) tries to conceal his losing or *kali* throw (*verse* 252). In the *Bhūridatta-Jātaka-Vatthu*, *kali* and *kṛita* are contrasted (*Kalī hi dhīrānaṁ kaṭam mugānaṁ*, 'Loss to the wise, a gain to the fool,' *J.R.AS.*. 1892, p. 127; also *Jāt.* VI 228). In the *Chhāndogya Upnishad* (IV.1.4) *kṛita* is the winning throw. In the Sabhāparva (52.13) Śakuni is described by Vidura as *kṛita-hasta*, *i.e.* one who takes a winning throw. Pāṇini also refers to these two kinds of throws:

Kritaṁ grihṇāti=kṛitayati
Kaliṁ grihṇāti=kalayati[1] (III.1.21)

1 The *sūtra* deliberately reads *kala* instead of *kali*, as shown by Kātyāyana's *vārttika* '*kali-kalyoratva-nipātanam* (*Bhāshya*, II.28), which says that there can be no desiderative form in *kalayati*, since no one would wish for himself a losing throw.

These must have been current expressions used during the progress of the game when a player scored a winning or a losing throw. In the *Vidhurapaṇḍita Jātaka* (545) a graphic description of the gambling scene between the Kuru king and the Yakkha Puṇṇaka is given and there an expression identical with that of Pāṇini is used.

'rājā kaliṁ vichinam aggahesi,
kaṭam aggahī Puṇṇako pi yakkho.'

'The king played the losing throw and the Yakkha Puṇṇaka the winning throw.' (*Jāt.* Text, VI. 282; Trans. VI 138). It is stated there that the Yaksha was reshuffling with his miraculous power such dice as were falling against him. The *bhassamānā pāsaka* (missing dice) of the *Jātaka* correspond to Pāṇini's *ckapari*, etc. It also appears that so long as a player was taking the *krita* throw he went on repeating his throws. But after the *kali* throw, the turn went to the other player. When once either Śakuni or Puṇṇaka begins to win deceitfully, he continues to throw the dice up to the end of the game.

WAGER (*GLAHA*)—Śakuni opined that dicing, a noble game, was maligned only because of its association with a stake (*aksha-glaha*, Sabhā, 59.8). According to Pāṇini *glaha* is irregularly derived when it relates to the vocabulary of dicing (*Akshesu glahaḥ*, III.3.70). According to the *Vedic Index*, *glaha* was a later form used in the *Atharvaveda* for *grābha* of the *Ṛigveda* meaning a 'throw' at dice (I.248). This may be its original meaning, but in classical Sanskrit *glaha* always denoted the stake and not the throw (cf. and *Yaj. Smṛiti*, II.199 as rendered by Mitāksharā, *kitava-parikalpita paṇa*; also Shabhā parva, Dyūta Section where it invariably means a wager). This meaning Pāṇini had in view. Other references in Pāṇini to wager or stake-money are *śatasya vyavaharati*, *śatasya paṇate* (II. 3.57), *śatasya dīvyati* (II. 3.58), *śatasya pratidīvyati* (II. 3.59), all denoting 'he stakes a hundred rupees' in *dyūta*.[1]

1. Another sense of all these sentences is: he deals in sale and purchase transactions worth one hundred rupees (*kraya-vikraya-vyavahāra*).

According to the testimony of the Vedic literature, *Jātakas*, *Mahābhārata* (Sabhāparva) and Kauṭilya dicing was a game played in a *sabhā*. The *Arthaśāstra* prescribes 5 p. c. as Government fee to be realised on the amount of wager (*Arth.* III. 20, p. 198). This would correspond to *pañchakaḥ* (*pañchāsmin āyaḥ*), cited in the *Kāśikā* to illustrate *sūtra*, V. 1.47).

ANOTHER BOARD GAME—Pāṇini also refers to a game resembling draughts or the Indian *chaupar*, which must have been played on a board (*ākarsha*, V. 2.64) divided into squares, and in which the essential thing was the movement of the gamesmen from square to square in accordance with the results of the throw of the rival players. The gamesmen were known as *śāra* and the movement of the pieces as *pariṇāya* (*pari* + *ṇāya* in the sense of *dyūta*, III. 3.37), *pariṇāyena hanti śārān* (example on Pāṇini, III. 3.37), i. e. he hits the rival gamesmen by an encircling movement (*samantan-nayanena*) of his own pieces.

Ayānayīna, a technical term mentioned in *sūtra*, V. 2.9, denoted a gamesman fit to be moved to a square of safety. Patañjali comments on its meaning: 'By giving the sense as that which is to be carried to *ayānaya*' the meaning is not made quite clear as to which is *naya* and which is *anaya*.' (To this we reply). 'The right hand move *anaya*. (The pieces move both right and left with reference to the rival players seated opposite to each other). That square is called *ayānaya* in which pieces coming both from right and left (which virtually means the gamesmen of both players) are not attacked by their rivals. The gamesman that is desired to be moved to such a safe square is spoken of as *ayānayīna*.' *Bhāshya*, II. 373). On each side of the board there are such checkered squares in which rival gamesmen may rest without being attacked. This description holds good in the case of *chaupar* which thus appears to be an old game.

CH. III, SECTION 16. MUSIC

The tradition of the musical art in India is of high antiquity. In the sculptures at Bharhut and Sanchi both vocal and instrumental musicians are found frequently represented. In the *Arthaśāstra* of Kauṭilya music and musicians are often mentioned. In the *Jātaka* literature music forms a chief item of social and individual entertainment. Pāṇini's *Ashṭādhyāyī* which in point reflects an even earlier stage of culture, shows an equally full acquaintance with the various branches of the musical art. Besides referring to vocalists and instrumentalists, tho *Ashṭādhyāyī* also mentions orchestral bands including singers to the accompaniment of *vīṇā*, one of the most popular instruments in ancient Indian music.

MUSIC, A ŚILPA--In Pāṇini's days music was regarded as an art((*śilpa*). Not only instrumental music as cymbals, tabor, (IV.4.55-56) but also dance (III.1.145) and vocal music (III.1.146-47) are mentioned under the category of *śilpa*. In the *Jātakas* also music is a *sippa*.

Music comprised *nṛitya* (dance), *gīta* (song), *vāditra* (instrumental music), and sometimes also *nāṭya* (stage-acting). The *Khantivādi Jātaka* mentions these four branches together as part of royal entertainment (*gīta-vādita-nachchesu chekā nāṭakitthiyo gītādīni payojayiṁsu*, *Jāt.* III. 40). Kauṭilya also treats *gīta*, *vādya*, *nṛitta*, and *nāṭya* as parts of music (*Arth.* II.27, p. 125). The *Ashṭādhyāyi* refers to all of them, e.g. song is referred to as *gīti* (III.3.95) and *geya* (III.4.68), a vocal singer as *gāthaka* (III.1.146) and *gāyana* (III.1.147), a songstress as *gāthikā* and *gāyanī*, a dancer as *nartaka* (III.1.145 as explained by Patañjali), *nṛitya* (I.3.89, VII.2.57), and a player on an instrument as *parivādaka* (III 2 146). Stage acting is mentioned as *nāṭya* (IV.3.129).Pāṇini's reference to a treatise called the *Naṭa-*

sūtra (IV.3.110) shows that the theoretical side of the dramatic art was also studied.

ORCHESTRA—The idea of having a concert of different instrumentalists was known to Pāṇini. The band was collectively known as *tūrya*, and individual members *tūryāṅga* (II.4.2). In concert two allied instrumentalists were grouped together, and the group was denoted by a compound in the singular number (II.4.2). For example, the set of players on *mṛidaṅga* and *paṇava* was referred to as *mārdaṅgika-pāṇavikam*. The *Kāśikā* adds to this *vīṇāvādaka* (luteplayer)—*parivādakam*. Pāṇini refers to *parivādaka* in *sūtra*, III 2 146 without stating its meaning. It appears that *parivādaka* was a player on a stringed instrument. Patañjali, considers *parivādaka* as a lute-player (*Bhāshya*, VII.4.1; III.345; *avīvadad vīṇām parivādakena*). Pāṇini refers to *vīṇā* in several *sūtras* (III.3.65), and we learn from the *Jātakas* that *vīṇā* formed part of an orchestral band (*vīṇādīni turiyāni*, *Jāt*. III.40).

SAMMADA—Pāṇini explains *sammada* and *pramada* as festivity (*harsha*, III 3 68). It was a kind of opera as illustrated in a sculpture at Bharhut, inscribed as '*Sāḍakaṁ sammadaṁ turaṁ devānaṁ*,' an opera (*sattaka*) comprising both instrumental and vocal music performed in the palace of gods (Barua, *Barhut*, Book I, plate 2; also Book III, Fig. 34). The scene shows several groups, namely, singers, four female dancers, and an orchestral band (*tūrya*) comprising of female lyreplayers, a hand-clapper, a cymbalist and a taborer. According to the *Nidāna-kathā* a *tūrya* party consisted of players on five musical instruments (*pañchaṅgika tūrya*, *Jāt*. I.32), probably by adding a flute-player to the four represented in the Bharhut scene. *Sammada*, therefore appears to have been a festive celebration in which dance and music played an essential part.

INSTRUMENTS—Amongst stringed instruments the lyre (*vīṇā*) is mentioned. The term *upavīṇayati*, 'sings with the lyre,' points to the popular practice of combining vocal

and instrumental music. Singing without lyre was denoted by the expression *apavīṇam* (VI. 2.187). The musical notes produced from a lyre known as *nikvaṇa* or *nikvāṇa* (III. 3. 65, (*Kvaṇo vīṇāyāṁ cha*).

Of the percussion and ringing instruments mention is made of *maḍḍuka*, a small tabor (IV. 3.56) and *jharjhara* (IV. 4,56), the players being known as *māḍḍukika* and *jhārjharika*, taborers and cymbalists, respectively. Keeping time by the clapping of palm is referred to in the expressions *pāṇigha* and *tālagha* (III. 2.55 ; cf. *pāṇissara* or clapper in the *Vidhurapaṇḍita Jāt.* VI. 267).

The *dārdurika* seems to have been a player on a drum made of an earthen jar (IV. 4.34). In the *Jātakas* we find *kumbhathūnika* mentioned in a list of musical players which the commentary explains as *ghāṭadaddara-vādaka* (*Jāt.* VI. 276). The *Kāśikā* explains *dārdurika* as a potter, signifying one who was the maker of those particular pots used as *vādya-bhāṇḍa*.

AKĀLAKA VYAKARAṆA—Pāṇini's system of grammar became known to the ancient as a grammar without 'time' (*akālaka*). The *Kāśikā* repeats thrice the statement that Pāṇini was the promulgator of a grammatical treatise from which he excluded the discussion of the precise denotation of the various time-divisions (*Kāśikā*, II. 4.21; IV.115; VI. 2.14; also *Chāndravṛitti*, II. 2.68, *Pāṇiny-upajñam akālakaṁ vyākaraṇam*). 'How much is the duration of the day, when does present (*vartamāna*) end and future (*bhavishya*) begin, what is *adyatana*, and how much interval of time makes *paroksha*, etc. ?—these are questions considered by Pāṇini as not coming within the province of grammar, but to be decided with reference to current usage (I. 2.57, *Kālopasarjane cha tulyam*). Patañjali tells us that other teachers had entered into hair-splitting discussions about these matters (*Bhāshya*, III. 2.123; II. 123).

Pāṇini, however, deals with the general divisions of time (*kāla-vibhāgas*, III. 3.137), *e. g.*, night and day (*ahorātra*, III. 3.137), fortnight (*paksha*, V. 2.25), month (*māsa*, V. 1. 81), half-year (*shaṇmāsa*, V. 1.83), year (*varsha*, V. 1.88), and the solstitial division (*ayana*, VII. 4.25).

The more frequent word for time was *kāla*, although *samaya* and *velā* are also used (III. 3.167). According to an unnamed author of a *vārttika* on Pāṇini, VII. 3.15, the word *parimāṇa* in the *Ashṭādhyāyī* applies to measures other than those of time (*Bhāshya*, III. 321). Pāṇini, however, treats Time as a measure of life (*kālāḥ parimāṇinā*, II. 2.5.); for example, a person after birth comes under the measure of time as *dvyaha-*, *tryaha-*, *māsa-*, *saṁvatsara-jātaḥ*. On the above *sūtra* Patañjali notes an important fact that time is an entity by which growth and decay of visible objects are indicated and that the movement of the sun

(*āditya-gati*, I.409) is responsible for portioning out time into days and nights, months and the year by constant repetition (*asakṛid-āvṛitti*). The sun is referred to as *ahaskara*, maker of the day (III.2.21), and the heavenly bodies as *jyotis* (VI.3.85 ; *vār*. on I.3.40 ; *Pat*. 1.231). Persons born under the same constellation were called *sajyoti*.

Pāṇini's reference to *vidhun-tuda* (III.2.35) points to the belief in the legend of Rāhu causing a lunar eclipse, also referred to in Vedic literature (*Vedic Index*, I.254; also *Tāṇḍya Br*. Caland, VI.6 8).

The following time-divisions are referred to in the *Ashṭādhyāyī*:

AHORĀTRA (III.3.137, VI.2.33)—Night and day constitute the fundamental unit of time-reckoning. The terms *naktaṁdivam* and *rātriṁdivam* (*sūtra*, V.4.77) are according to Fleet rather peculiar since in India the day has always been measured from sunrise and he suggested that the forms may be due to euphonic considerations. Dr. Keith, however, thinks that they were genuine old expressions preserved in Pāṇini from a very remote past when the day was reckoned with sunset (*J.R.A.S.*, 1916, p. 143-6).[1] It is admitted that in the sutra period the day was reckoned with sunrise.

The day was further divided into *pūrvāhṇa* and *aparāhṇa*, forenoon and afternoon (IV.3.24), and the night into *pūrvarātra* and *apararātra* (V.4.87). The union of night and day in the morning and evening is referred to as *saṁdhi-velā* (IV.3.16).

The division of the day into *muhūrtas* was also known, the expiry of *muhūrta* period being quoted as a factor to determine tenses (III.3.9 ; III.3.164). Patañjali on *sūtra*, II. 1.28 refers to a variable period of six *muhūrtas* (*shaṇ-muhūrtāś charācharāḥ*, 1.384). This may be understood in the light of

1 Cf. also Fleet's reply (*J.R.A.S.*, 1916, p. 356) ; Keith's rejoinder (p. 555) and Fleet's final reply (p. 561), in which Fleet's view seems well-grounded.

Kauṭilya who states that the day consisted of 30 *muhūrtas* and that the equinoctial day and night of 15 *muhūrtas* each fell in the month of Chaitra, and Āśvayuj; the solstitial points, however, caused night and day to increase and diminish by three *muhūrtas* each (*Artha.* II.20, p. 108). These six *muhūrtas* representing the maximum increase of day in summer and of night in winter must have been called *charāchara*.

MONTH—The month consisted of the usual two *pakshas* of which the *Amāvāsyā* and the *Paurṇamāsī* formed the closing days Pāṇini refers to the opening day of a *paksha* as *pakshati* (V.2.25) which the *Kāśikā* takes as a synonym of the *Pratipad* day.

Sāvana Month. The reckoning of a *Sāvana* month consisting of 30 days is deducible from the phrase *shashṭi-rātra* (V.I.90), literally 60 nights equivalent to two months. Kauṭilya also refers to a period of thirty days and nights together making one working month, (*prakarma māsa, Artha.* II 20 p. 108). In this arrangement the last day of the half and the full month need not coincide with *Amāvāsyā* and *Paurṇamāsī* which were the characteristic days or *parvans* of a lunar month. Pāṇini derives two special words *ardha-māsa-tama* and *māsa tama* to signify the last day of the half-month, and the last day of the full month respectively (V.2. 57). It appears that the need for these two terms arose as they were not synonymous with *Amāvāsyā* and *Paurṇamāsī*. The words *ardha-māsa-tama* and *māsa tama* may be taken to refer to the fifteenth day and the thirtieth day of the *prakarma-māsa* or the civil month used especially in the case of government or public offices. Patañjali clearly acquaints us with the existence of a *bhṛitaka-māsa*, month by which the wages of labourers were reckoned (IV.2.21). Both Kātyāyana and Patañjali interpret *sūtra*, IV.2.21 (*Sāsmin Paurṇamāsīti*) in a way so as to distinguish the lunar month ending with *Paurṇamāsī* from some different reckoning (*Bhāshya* II 275). The *prakarma* month

of Kauṭilya seems to be the same as the *bhṛitaka* month of Patañjali.

The *Sāvana* month of thirty days is again referred to by Patañjali as *triṁśadrātra*, consisting of two equal halves fifteen days each, the first one of which was called *avara pañchadaśa-rātra* or *avara ardhamāsa*, and the second by implication as *para-* (*Bhāshya*, III.3.136. II.162). It is interesting to note that Patañjali uses the term *rātri* for 'day' while referring to the *Sāvana* month of 30 days and its half of 15 days. This practice goes back to Pāṇini, who uses the word *rātri* (=*ahorātra*) in the phrase *shashṭi-rātra*, a period of 60 days, being twice of the *Sāvana* month called *triṁśad-rātra* by Patañjali.

Lunar Month. The prevalence of a lunar calendar with a month (*chandramāsa*) of 29½ days depending on the two *parvans*, *Amāvāsyā* and *Paurṇamāsī* was definitely known. It appears that in the *Ashṭādhyāyī* the *pūrṇimānta* basis of reckoning the lunar month was accepted. This is suggested by the fact that the name of the month was derived from that of the *Paurṇamāsī* falling in it, of which Pāṇini refers to *Agrahāyaṇī* (IV.2.22), *Phālgunī*, *Śravaṇā*, *Kārttikī* and *Chaitrī* (IV.2.23). In one example the settlement of a debt claim is said to fall due on the *Paurṇamāsī* day (i.e. *Agrahāyaṇī*, IV.3.50), this too pointing to *pūrṇimānta* reckoning. Moreover, the use of special terms *upa-paurṇamāsi* and *upa-paurṇamāsam* (V.4.110) meaning 'about the date of the month called *Paurṇamāsī*,' is more likely to have become current on the basis of a *pūrṇimānta* month, while no such idiom is available for *āmāvāsyā*. Both Kātyāyana and Patañjali clearly accept *Paurṇamāsī* as the closing day of a month[1] (IV.2.35 ; II.277).

Names of Months. Some Vedic names of months as *Nabhasya, Sahasya, Tapasya* are implied in *sūtra*, IV.4.128. But the prevailing month-names were those derived from the

1 (Var.) *Pūrṇamāsādaṇ* (Bh.) *Pūrṇamāso vartate' sma kāle Paurṇamāsī tithiḥ* (II.277).

names of *nakshatras*. Dr. A. B, Keith observes that the method of naming the months from the *nakshatra* names began in the *Brāhmaṇas*, while it is found regularly in the Epics and later (*Vedic Index*, II 162). He also points out that the name of the *nakshatra* in the *Brāhmaṇas* is more often turned into a derivative adjective and used with *Pūrṇamāsī* or *Amāvāsyā*, as in *Phālgunī Paurṇamāsī*, but it is more usual in the *sūtras* to use the *nakshatra* adjective alone to denote the full-moon night (*Vedic Index*, I 420). The *Ashṭādhyāyī* refers to the latter practice *e. g*, *Āgrahāyaṇī*, *Phālgunī*, *Śravaṇā*, *Kārttikī*, *Chaitrī*, etc. (IV.2 22-23) as names of *Paurṇamāsīs* in which the full moon is in conjunction with the lunar mansions called Phalgunī, Śravaṇa, Krittikā, Chitrā, *etc*. The mounths in which these *Paurṇamāsīs* occur are called after them (*Sāsmin Paurṇamāsīti saṁjñāyām*, IV.2.21).

NAKSHATRAS—Pāṇini analyses *nakshtra* into *na-kshatra* (VI.3.75), a derivation found also in the *Śatapatha Brāhmaṇa* (II.1.2.18, *nakshtra* 'no light', explained with a legend). The *Nirukta*, although it cities this Brāhmaṇa derivation, prefers to derive *nakshatra* from *naksha* 'to come near' (*nakshater—gatikarmaṇaḥ*, *Nir*, III.20 ; cf. *Vedic Index*, 1.409). Pāṇini strangely enough followed the *Śatapatha* tradition. The following *Nakshatras* are mentioned in the *Ashṭādhyāyī* :

1. *Krittikā*. Referred to in the form *Kārttikī*, the full-moon day of Krittikā (IV.2.23). Pāṇini gives another name of *Krittikā* as *Bahula* (IV.3.34) which word came to signify the asterism of Pleiades on account of the knowledge that constellation consisted of numerous stars. The *Śatapatha Brāhmaṇa* significantly remarks : *bhūyishṭhā yat Krittikāḥ* (II.1.2.3). *Bahula* and *Bhūyishṭha* are interchangeable terms according to Pāṇini, VI.4.158 (*Bahor-lopa bhū cha bahoḥ*).[1]

1. The number of stars in the Krittikā is counted seven in the *Taitt. Br.* III. 1.41, *viz. Ambā, Dulā, Nitatni, Abhrayanti, Meghayanti, Varshayantī, Chupuṇikā*. In classical literature this number is six, from which comes the epithet *Shāṇmāturah* as the name of Kārttikeya. Pāṇinis *sūtra māturut-saṁkhyā*.........(IV. 1.115) is illustrated by *Dvai-mātura* and *Shāṇmātura*.

3. *Mrigaśīrsha*. Not referred to by the name of the *nakshatra*, but the full-moon night called *Āgrahāyaṇī* is mentioned thrice (IV.2.22; IV.3.50; V.4.110). The month was named *Agrahāyaṇika* (*Āgrahāyaṇiko māsaḥ*). Pāṇini refers to agreements for repayment of loans on the *Agrahāyaṇī* day (IV.3.50). The time near about *Āgrahāyaṇī* was called *upāgrahāyaṇam* and *upāgrahāyaṇi* (V.4.110).

4. *Ardrā* (IV.3.28). A person born under *Ārdā* was named *Ārdraka*.

5. *Punarvasu*. Pāṇini knows that there were two stars in this constellation; the two stars of Punarvasu and one of Tishya make three, but they are expressed by the dual number, as Tishya-Punarvasū (I.2.63). But in *sūtra*, IV.3.34 he mentions Punarvasu in the singular, the form found both in the *Maitrāyaṇī* and *Kāṭhaka Saṁhitās* (*Vedic Index*, I.413). According to rule I.2.61 the singular form was optionally used in the Vedas.

6. *Tishya*. Besides the form *Tishya* (I.2.63; IV.3.34; VI.4.149), Pāṇini mentions its two other names, *Pushya* and *Siddhya* (*Pushya-Siddhyau nakshatre*, III.1.116). The person born under this asterism was also called *Tishya* (IV.3.34), a common name in the *Jātakas* under the form Tissa, and also Phussa from Pushya.[1] In the *Arthaśāstra*, *Tishya* had been replaced by the form *Pushya*, which Patañjali also prefers (I.462; II.35). *Pushya* in preference to *Tishya* seems to be a feature of the post-Pāṇinean period.

9-10 *Phalgunī*, a double constellation called *Phalgunyau*; and also in the plural as *Phalgunyaḥ* (I.2.60).

11. *Hasta*, IV,3.34.

12. *Chitrā*, IV.2.23, its full-moon day being called *Chaitrī*.

13. *Svāti*, IV.3.34.

1. Fausböll *Jātaka Index*, p. 64, Tissa *amachcho*, Tissa-kumāra, Tissa Buddha, Tissa *thera*, and Tissa *aggasavika;* also p. 89 for Phussa.

14. *Viśākhā*, double stars, named optionally as *Viśākhe* and *Viśākhā*, I.2.62. The *Tait. Saṁhitā* prefers the former and the *Kāṭhaka* the latter form. Pāṇini himself prefers the singular form *Viśākhā* (IV.3.34).

15. *Anurādhā*, IV.3.34.

17. *Mūla*, IV.3.28.

18-19. *Ashāḍhā*, IV.3.34.

20. *Abhijit*, IV.3.36.

21. *Śravaṇa*, IV.2.23. The *Kāṭhaka Saṁhitā* names it as *Aśvattha* (*Vedic Index*, I.413), a term also known to Pāṇini (IV.2.5 ; IV.3.48). The *Kāśikā* takes *Aśvattha* as the season when the berries of the *Pipal* (*Ficus religiosa*) ripen.

22. *Śravishṭhā*, IV.3.34.

23. *Śathbhishaj*, IV.3.36.

24-25. *Proshṭhapadā*, a double asterism called *Proshṭhapade* and *Proshṭhapadāḥ* (I.2.60), and also in the masculine gender as *Proshṭhapada* (V 4.120), a form used in the *Tait. Saṁhitā*, and also by Pāṇini when speaking of the deity of this asterism (IV.2.25) to whom religious homage (*bhakti*) was paid by its devotees.

26. *Revatī*, IV.1.146.

27. *Aśvayuj*, IV.3.36. The *Āśvayujī* full-moon day was considered auspicious for sowing crops (IV.3.45).

ORDER OF NAKSHATRAS—The Vedic list of *nakshatras* begins with *Kṛittikā*. According to Hopkins : 'As late as Yājñavalkya's law-book, I.267, the Pleiades hold this position as opposed to the still later scheme (since c. 490 A.D.) beginning with *Aśvinī* to indicate the vernal equinox' (*J.A.O.S.*, XXIV, p. 34). Patañjali's illustration *Kṛittikā-Rohiṇyaḥ* to show the order of precedence in the asterisms as required by a *vārttika* on II. 2.34 points to the fact that up to his time the *Kṛittikās* headed the list.

The question has to be considered in relation to Pāṇini from a different stand-point. In mentioning a list of about ten stars Pāṇini opens the list with *Śraviṣhṭhā* :

> *Śraviṣhṭhā — Phalguny — Anurādhā — Svāti — Tishya — Punarvasu — Hasta — Viśākh = Ashādhā — Bahulā-luk* (IV. 3.34).

What does the beginning with *Śraviṣhṭhā* indicate ? Now the list of the *Vedāṅga Jyotisha* also commences with *Śraviṣhṭhā*, and Garga says that the *Krittikās* are the first asterism for the ritual, while *Śrāviṣhṭha* is the first for ordinary rekoning : *Karmasu Krittikāḥ prathamaṁ (nakshatram), Śraviṣhṭhā tu saṁkhyāyāḥ* (cited by Tilak, *The Orion*, p. 30). Hopkins who discussed this question with reference to the *Mahābhārata* evidence found that the *Mahābhārata* refers to two beginnings, *viz.* (1) with *Dhaniṣhṭhā* (another name of *Śraviṣhṭhā*) as in the Vanaparva (230. 10), and (2) with *Śravaṇa* as in the Aśvamedha-parva (44.2, *Śravaṇādīni rikshāṇi*) (*J. A. O. S.* XXIV, p. 15, 34). Fleet discussing independently another *Mahābhārata* passage, *pratiśravaṇa-pūrvāṇi nakshatrāṇi chakāra yaḥ* (Ādiparva, 71.34) showed that the 'two passages of the *Mahābhārata*, giving a Śravaṇādi list of the *nakshatras* are noteworthy as coming from a time when it was recognised that the winter solstice had travelled westwards from the first point of *Śraviṣhṭhā* (*Dhaniṣhṭhā*), where it was placed by the astronomy which was preserved in the *Jyotisha Vedāṅga*, and was in the preceding *Nakshatra Śravaṇa* (*J. R. A. S.*, 1916, p. 570). Pāṇini's mention of *Śraviṣhṭhā* at the head of his list is evidently in conformity with the Vedāṅga astromony and points to a time anterior to the revision of the *Nakshatra* list, or, as Dr. Keith would have it (*J.R.A.S.*, 1917, p. 139), its refrom by substituting *Śravaṇa* for *Śraviṣhṭhā*. The point is of some importance for the relative chronology of Pāṇini, as explained in the last chapter.

Pāṇini also subscribes to the Vedāṅga conception of the *nakshatras* as a scale divided into twenty-seven equal

parts. Under this division of the ecliptic, the twelve months were named after the moon's entry into the mansion of a particular star (*Nakshatreṇa yuktaḥ kālaḥ*, IV. 2.3). When the full-moon was in conjunction with the asterism of *Chitrā*, that day was known as *Chaitrī Paurṇamāsī* (IV. 2.3), and the lunar month which included the *Chaitrī Paurṇamāsī* was named *Chaitra* (VI. 2.21). The name of the star even without a suffix was used as synonymous with the time, for example, the expression *adya Pushyaḥ* indicated the day named after the star, as we name our days at present after the *tithis* like *Pratipad*, *Dvitīyā*, etc. (IV. 2.4).

Pāṇini also regulates the naming of the day or night after two stars being in conjunction with the moon as *Rādhānurādhīya* and *Tishyapunarvasavīya* day (IV. 2.6).

Pāṇini uses the word *lagna* in the sense of *sakta* (VII. 2.18) and not in the technical sense of *rāśīnām udaya*. According to Dr. Kaye the system of the zodiac scale of twelve divisions replaced the *nakshatra* division of the ecliptic at a fairly late date, probably about 450 A. D. (Kaye, The Nakshatras and Precession, *Ind. Ant.* Vol. 50, p. 45).

SOLSTICE—The *sūtra* VIII. 4.25 (*Ayanaṁ cha*) refers to *antarayaṇa* or the time within the solstice, *i. e.* the period spent by the sun in proximity to the solstitial points. The alternative form *antarayana* denoted the countries situated within the tropics.

SEASONS AND YEAR—The year is referred to under various names as *varsha* (V. 1.88), *samā* (V. 1.85; V. 2.12), *saṁvatsara* (V. 1.87) and *hāyana* (III. 1.148; V. 1.130), the last word denoting both time and a kind of harvested paddy. The month-name *Agrahāyaṇa* points to its being the first month of the year. Pāṇini also refers to the various terms making up the five-year cycle, *e. g.* *Idvatsara*, *Saṁvatsara*, *Parivatsara* (V.1.91-92). The *Arthaśāstra* mentions the cycle of five years as constituting one *yuga*.

The year was divided into two halves, each semester being known as *shaṇ-māsa* (V.1.83). The first half-year was called *avarasamā*, and the loan to be repaid during that period was *āvarasamaka* (IV.3.49).

Pāṇini names all the six seasons, *e. g.* *vasanta* (IV.3.46), *grīshma* (IV.3.49), *varshā* (IV,3.18 ; also called *prāvṛish* (IV.3.17 ; 26), *śarad* (IV.3.12 ; 27), *hemanta* (IV.3.21-22) and *śiśira* (II.4.28). Each season (*ṛitu*) comprised two months, as shown by the mention of the two parts of a season, like *pūrvavārshika* and *aparavārshika*, the first and latter part of rains (*Avayavād-ṛitoḥ*, VII.3.11 ; see also *Bhāshya*, I.1.72.18; I. 186 mentioning *pūrva-* and *apara-śārada* and also *-naidāgha*). Patañjali tells us that *śiśira* preceded *vasanta* and that the winter solstice began with *śiśira* (*śiśira-vasantāv = udagayanasthau*, *Bhāshya*, II 2,34 ; I.436). In the *Arthaśāstra* also *uttarāyaṇa* begins with *śiśira*, consisting of the two months *Māgha* and *Phālguna* (*Artha*. II.20 p. 109).

VYUSHṬA, NEW YEAR'S DAY—Pāṇini refers to *Vyushṭa*, the new year's day, and to *vaiyushṭa* the transanctions or payments made on that day (*Tatra cha dīyate kāryaṁ bhavavat*, V.1.96 ; *Vyushṭādibhyo'ṇ*, V.1.97). In the *Vārāha Śrauta Sūtra pradosha* is the first *yāma* (3 hours) of the night, and *vyushṭa* the fourth (*Akulapāda Khaṇḍa* III) ; but in the *Arthaśāstra* (II.6-7, pp. 60 and 64) as Dr. Shamasastri has shown, *vyushṭa* denoted the New Year's day, *i. e.* the first day of the financial year commencing after the full-moon day of *Ashāḍha* (*Artha*. Trans. pp. 59, 64 ; Preface, xxiv ; also the paper '*Vyushṭa* or the Vedic New Year's Day' in the *Proceedings of the Second Oriental Conference*). Pāṇini seems to use *vyushṭa* in this special sense. Kauṭilya throws light on the nature of payments and business on this day. At the close of the financial year (*rāja-varsha*) on the Āshāḍhī, the Heads of the Accounts Department reported themselves at Headquarters with their registers in sealed boxes (*samudra pusta-bhāṇḍa*) and the cash balances (*nīvī*). There they declared the totals (*agrāṇi*) of the receipts (*āya*), expenditure (*vyaya*) and *cash* (*nīvī*) and then deposited the net

revenue in hand. Tnis illustrates the *vaiyushṭa* payments of Pāṇini (*tatra cha dīyate*).

Next ensued the intricate checking and verification of accounts which corresponds to the business called *vaiyushṭa* by Pāṇini (*tatra cha kāryam*). In the *Arthaśāstra*, *Vyushṭa* (i.e. cash balance on the opening day) formed the bed-rock of this checking, heading each of the three lists of audit-points (II.7.) In the Asokan Edicts, the yearly diary began on the *Vyushṭa* day.[1]

Pāṇini refers to the last day of the year as *saṁvatsaratama* (V.2.57), probably the day for the clearance of the *sāṁvatsarika* loans (IV.3.50, *saṁvatsare deyam ṛiṇam*).

Pāṇini refers to another allied term, *viz*. *mahāparāhṇa*, 'the great afternoon' (VI.2.38). As the other words in the *sūtra* VI.2.38 like *mahā-vrīhi* and *Mahā-bhārata* are technical terms, *mahāparāhṇa* also appears to be of the same category. We may connect this word with the afternoon of the last day of the year, or better of *Vyushṭa* itself. The *Sūryaprajñapti* states that the new year began with *the longest day* in the month of *Śrāvaṇa* (*Proc. Second Oriental Conference*, p, 38). This day was truly a *Mahāparāhṇa* as its day-book (*ahorūpa*) would be long kept open for entries after verification. The *Mahābhārata* knows this term; Arjuna returning from the *svayamvara* 'entered the house on the *mahāparāhṇa* (day), surrounded by Brāhmaṇas like the sun in the midst of the clouds' (*mahatyathāparāhṇe tu ghanaiḥ sūrya iv=āvṛitaḥ*, Ādiparva, Critical Poona edition, 181.40). The metaphor would be appropriate only in the rainy season. The Brāhmaṇas wearing black antelope skins (*rauravājina-vāsibhiḥ*, Ādi. 181. 35) overshadowed Arjuna as masses of dark clouds cover the sun. This connects *Mahāparāhṇa* with the rainy season, and confirms its identification with *Vyushṭa*,

[1] Cf Aśoka's Minor Rock Edict, Brahmagiri, for counting the days of the year from the *Vyushṭa* day. 'This proclamation was issued by me on tour when 256 days had elapsed after *Vyushṭa*'.'

i.e. the New Year's day in Śrāvaṇa, considered from the accounts point of view to be the "Longest Afternoon" of the whole year.

CH. III, SECTION 18. CURRENT PERSONAL NAMES

Personal names always contain valuable linguistic and chronological data. Proper names of different periods are marked by special features characteristic of that age. For example, the usual method of referring to a person in the *Ṛigveda* is to give his own name along with another epithet connected with his father's name. In the later Vedic literature it was the *gotra* name. Sometimes the personal name was coupled with the name of the country or locality, *e.g.* Bhīma Vaidarbha (*Ait. Br.*, vii.34). In the *Vaṁśa* lists of the late Brāhmaṇa period we find the frequent use of metronymics. (P. V. Kane, Naming a Child or Person, *I.H.Q.*, June 1938, pp. 227-228). On the other hand there is no evidence in Vedic literature of individual names being derived from the names of Vedic gods or stars. Such naming came into vogue in much later times with a change in religious beliefs.

CLASSES OF NAMES KNOWN TO PĀṆINI—These were of four principal classes: (1) *Gotra* names mentioned in Chap. IV, *pāda* 1 of the *Ashṭādhyāyī*, *e.g.* Gārgya. (2) Patronymics, *e.g.* Upagu's son called Aupagava (*Tasyāpatyam*, IV.1.92). (3) Names derived from localities, where they or their ancestors lived (*nivāsa* and *abhijana*). They throw light on the geography of the country. (4) Personal names proper (*manushya-nāma*, V.3.78 84) which are mainly dealt with in this chapter (also referred to as *saṁjñās*, V.3.65 ; VI.2.106 ; VI.2.159 ; VI.2.165).

THEIR SPECIAL FEATURES—Personal names in the time of Pāṇini show three special features, viz. (1) names as compound of two units ; (2) names formed by contraction, as *Devaka* for *Devadatta* ; and (3) names derived from stars (*nakshatra-nāma*), as *Svātidatta*.

Names which are compound words normally consist of a *pūrvapada* and an *uttarapada* (V.3.82), and the compound is either *Bahuvrīhi* or *Tatpurusha*. Almost all names in this section (V.3.79-83 ; VI.2.106-115) are polysyllabic (*bahvach*), *i.e.* consisting of more than two syllables (*ūrdhvaṁ dvitīyādachaḥ*, V.3.83), the actual number of syllables being usually four or five. According to the *Gṛihya Sūtras* a name should have a *Kṛit* ending, and not a *Taddhita*. Pāṇini mentions two examples of this *viz.* *datta* and *śruta* (VI.2.148). To these Patañjali adds *rakshita* (I.189) and *gupta* (I.37, *e.g.* Āmragupta, Śālagupta). The above two features of names are ascribed to the Yājñikas by Patañjali (I.4), who must have based themselves on the tradition of the *Gṛihya Sūtras*[1]. Besides *kṛit* ending, Pāṇini mentions Mitra, Ajina (VI.2.165 ; V.3.82) and Sena (IV.1.152 ; VIII.3.99) as the second part of personal names.

CONTRACTION—Contraction of names is unknown to Vedic literature, since the *Gotra* names were not susceptible to abbreviation. Only in the compound names do we find the elision of the *uttarapada* (V.3.82), or the retention only of its first two syllables (V.3.83). The contraction of a personal name is dictated by affection or endearment (*anukampāyām*, V.3.76) ; e.g., Vyāghrājina was simplified to Vyāghraka (V.3.82); and Devadatta to Devika, Deviya and Devila (V.3.79). It might also be expanded into Devadattaka (V.3.78). In the opinion of the eastern grammarians, Upendradatta was shortened to Upaḍa and Upaka (V.3.80), and to Upiya and Upila, the last being the form which must have been transformed into Upāli, a name so well-known in Buddhist literature.

NAMES DERIVED FROM STARS (*NAKSHATRA-NAMA*)—Pāṇini knows the custom of naming persons

1 For rules about names in the *Gṛihyasūtras*, see *Hiraṇyakeśi*, ed. Kriste, II.4.10 ; *Āśvalāyana*, I.13.5-6 ; *Kāṭhaka*, III.10.2 ; *Pāraskara*, I,17:2 ; *Āpastamba*, VI.15.9 ; *Mānava*, I.18.1. (*I.H.Q.*, June, 1938, pp. 224-244, P. V, Kane) ; and also *Gobhila*, II.7.15-16 ; *Śāṅkhāyana*, I.24 ; *Khādira*, II.2.31-32 ; *Bhāradvāja*, I.26 ; *Drāhyāyaṇa*, II,4.2.

after the asterism of their birth (IV.3.34; 37; VIII.3.100); *e.g.*, Tishya (a boy born under Tishya); Punarvasu (a boy born under Punarvasu, IV.3,34.[1] Such *Nakshatra* names are practically unknown in the entire Vedic literature (except perhaps Chitra and Ashāḍha, which also may be differently interpreted.[2] This class of names is post-Vedic and constitutes a chronological landmark in social history separating the age of the *Sūtras* from that of the *Brāhmaṇas*.

The *Gṛihyasūtras* show the earliest use of such names. according to Āpastamba, the *nakshatra* name is the sacred name of a person. The *Khādira*, *Vārāha*, *Hiraṇyakeśī* and *Gobhila Gṛihyasūtras* contain injunctions for giving names based on stars (*nakshatrāśraya nāma*). These fall in line with Pāṇinian tradition. The use of such names is also found in Pāli literature. The epigraphic records of the Maurya and Śuṅga-Sātavāhana periods also testify to the use of such names for about four centuries.

A detailed analysis of the proper names in use in Pāṇini's time is given below. They fall under three groups, I. Miscellaneous names, II. Star names, and III. Abbreviated names. I. *Miscellaneous Names*: (1) Names with *viśva* as the prefix (*Bahuvrīhau viśvaṁ saṁjñāyām*, VI.2.106). The pre-Pāṇinian examples are Viśvāmitra, Viśvamanas (*Jaiminīya Brāhmaṇa*), Viśvasāman; and Vissakamma (I.314), Vissasena king of Vārāṇasī (II.345), Vessabhū Buddha, Vessāmitta, a former king (*porāṇakarājā*) (VI.251), and Vessantara in the *Jātakas*.

(2) Names ending in *udara*, *aśva* and *ishu* (*Udarāśveshushu*, VI. 2. 107). The names cited in the *Kāśikā*, viz. Vṛikodara, Haryaśva, Maheshu seem to be pre-Pāṇinian. Allied

1 *Tishyaścha māṇavakaḥ Punarvasū cha māṇavakau Tishya-Punarvasavaḥ.* Patañjali takes these examples implied in *sūtra*, I.2.65 (*Bhāshya*, I.231).

2 As Chitra Gāṅgyāyana (*Śāṅkha. Ār.* III.1); Ashāḍha Sāyavasa (*Jaiminīya Br.*) who was a *grāmaṇī* of the Śārkarākshyas; Āshāḍhi Sauśromateya (*Śatapatha Br.*, VI.2.1.37), son of Ashāḍha and Suśromatā.

classical instances are absent except Bahusodarī *Devadhitā* found in a *Jātaka* (VI. 83).

(3) Names ending in *karṇa* (VI.2.112), as Mayūrakarṇa (*Śivādi-gaṇa*, IV. 1. 112), and a few others in the *Gaṇa-paṭha*.

(4) Names ending in *kaṇṭha*, *prishtha*, *grīvā* and *jaṅghā* (V.2.114). Such names are rare in Vedic literature, except Śitiprishṭha and Śitikaṇṭha. Pāṇini mentions Kalaśīkaṇṭha, Dāmakaṇṭha, and Khārījaṅgha in the *Upakādi* group (II. 4. 69). Tālajaṅgha cited in the *Kāśikā* was an earlier name. Maṇikaṇṭha occurs in the *Jātakas* (II. 282).

(5) Names ending in *śṛiṅga* (VI. 2. 115). Ṛishyaśṛiṅga is the only example in the Buddhist or classical period.

(6) Names with the instrumental form *manasā* as prefix (VI. 3. 4). The *Kāśikā* cites Manasādatta and Manasāgupta, but there is no instance of their actual use in literature.

(7) Names ending in *mitra* (VI. 2. 165). These were only few in Vedic literature, but are very popular in the post-Pāṇinian period, *e.g.* Sarvamitta (*Jāt.* V. 13), Jitamitta (*Jāt.* I. 37), Chandamitta (*Jāt.* I. 41), etc. The later epigraphical records[1] show abundant use of *mitra*-ending names.

(8) Names ending in *ajina* (VI. 2. 165). *Kāśikā* cites Vṛikājina, Kulājina and Krishṇājina. In the Jātakas the only examples are Migājina (VI. 58) and Kaṇhājinā (daughter of Vessantara, VI. 487). Pāṇini himself refers to Krishṇājina in the *Upakādi* (II. 4. 69) and *Tika-Kitavādi* (II. 4. 68) groups. The paucity of *ajinānta* names in

1. The Sanchi inscriptions have Balamitra, Saṁghamitra (=Saghamita), Ahimitra, Satyamitra (=Sachamita) among males, and Nāgamitrā, Uttaramitrā, Vasumitrā, Rishimitrā (=Isimitā), Jitamitā, and simply Mitrā, among females (Buhler's *List* of Proper Names from Sanchi Ins., *Ep. Ind.*, Vol. II, pp. 403-407) ; Bharhut adds Saṅghamitra and Gargamitra (Lüders *List* Nos. 759, 832) ; the Pañchāla coins give, Brihaspatimitra, Agnimitra, Bhānumitra, Bhūmimitra, Dhruvamitra, Phālgunīmitra, Sūryamitra, Vishṇumitra (Allan, *Indian Coins*, p. cxvii) ; also Prajāpatimitra (*JNSI.*, III. 1. 1).

literature may be due to the elision of *ajina* as noted by Pāṇini : *Ajināntasy-ottarapadalopaścha*, V. 3. 82. For exampl, *Vyaghrājina* was contracted to Vvāghraka.

(9) Names of species (*jāti-nāma*) adopted as personal names (*manushya-nāma*, V. 3. 81), *e.g.* Vyāghaka, Siṁhaka. Besides the suffix *ka*, the other forms were Vyāghrila, Siṁhila (Bühler's Sanchi *List*). This custom of deriving names from animals was unknown in the Vedic period. Pāṇini makes reference to the contemporary ideals of personal bravery in instituting comparisons with the strength of a tiger or a lion (*Upamitaṁ vyāghrādibhiḥ samānyāprayoge*, II. 1. 56).

(10) Names ending in *sena* (VIII. 3. 99). Pāṇini refers to *senānta* names in *sūtra*, IV. 1. 152 (*Senānta-lakshaṇa-kāribhyaścha*). Famous examples of such names in the lists of Vedic teachers are Yājñasena (*Taitt.* S. V.38.1 ; *Kāṭhaka.* S. XXI.4) or Yājñasena[1] and Ṛishṭisheṇa (*Nirukta*, II. 11) ; Patañjali adds Jātasena as the name of a Ṛishi. As ancient examples of such names among Kskattriyas, Patañjali points out Ugrasena Andhaka, Vishvaksena Vṛishṇi and Bhīmasena Kuru. They become common in the post-Pāṇinian times, *e.g.* Vārisheṇa and Harisheṇa in Patañjali (*loc. cit.*) ; Sotthisena (*Jāt.* V. 88, Skt Svastisen), Sūrasena (*Jāt.* VI. 280), Ugrasena (Uggasena king of Banaras, IV. 458), Upasena (*Jāt.* II 449), Atthisena (*Jāt.* III. 352), Nandisena (minister of Assakarāja, *Jāt.* III. 3), Jayasena (*Jāt. Nidāna*, p. 41), Chandasena (*Jāt.* VI. 157) and Bhaddasena (*Jāt*, VI. 134) in the Jātakas. Also Dhamasena, Varasena at Sanchi ; Nāgasena (Luder's *List*, 719), Mahendasena (Lüder's *List*, 850) at Bharhut ; and Asāḍasena from Pabhosā.

As shown by Pāṇini (VIII. 3. 100) some personal names were formed by prefixing names of starts to the ending *sena*,

1. Descendant of Yajñasena also called Śikhaṇḍin, *Kaush. Br.*, VII.4. In a list compiled from the *Jaiminīya Br.*, Dr. Caland also gives Sutvan Yājñasena.

e.g. Rohiṇisena, Bharaṇisena, etc., and Śatabhishaksena a name although seldom found in actual use, is implied in Pāṇini's rule, VIII, 3.100 (*agakārād*).

(11) Names ending in *datta* and *śruta*, and implying blessing (VI. 2.148), *e. g.* Devadatta, 'he whom the gods have bestowed,' and Vishṇuśruta, 'he whose wishes Vishṇu may hear.' These are examples of names ending in a *Krit* suffix of which we hear so often in the *Gṛihyasūtras*. We do not usually come across any real name ending in *śruta* in the Vedic or Buddhist literature. The number of names ending in *datta* is also limited, as Brahmadatta (*Jaim. Br.*, king of Kośala, also called Prāsenajita), Punardatta and Sūryadatta (*Śāṅkh. Ār.* VIII. 8); but in Buddhist literature they are more common, as Devadatta, Bhūridatta (*Jāt.* VI. 167), Matidatta (*Jāt.* IV. 342), Yaññadatta Brāhmaṇakumāra (*Jāt.* IV. 30), Somadatta (*Jāt.* VI. 170). These become a regular feature in the post-Pāṇinian period, *e. g.* Aggidatta, Vāyu-, Yama-, Id- (=Indra-), Ṛishi- (=Isi-), Brahma- (=Baha-), Upendra- (=Upida- or Upeda-), Uttara-, Vaisramaṇa-, Pushya-, Gaṅga-, Dharma- and Nāgadatta, etc., (cf. Bhühler's Sanchi *List*). According to *Kātyāyana* (I. 4. 58-59), Maruddata would be equal to Marutta (*Bhāshya*, I. 341). Patañjali cites Yajñadatta and Devadatta as typical names of Brāhmaṇas (*Bhāshya*, I. 1.3; I. 189), often shortened simply to Datta (I. 1.45; I. 111).

(12) Śevala, Supari, Viśāla, Varuṇa and Aryamā (*Śevala-Supari-Viśāla-Varuṇ = Āryamādīnāṁ tṛitīyāt*, V.3. 84) —these formed the first part (*pūrvapada*) of names and the three endearment suffixes, *ika*, *iya* and *ila*, added after them caused the elision of all the syllables after the third. For example, Śevaladatta or Śevalendradatta was shortened to Śevalika, Śevaliya or Śevalila; Suparyāśīrdatta to Suparika, Supariya and Suparila; and Viśāladatta to Viśālika, Viśāliya and Viśālila.

In the *Jātakas* the equivalent of Śevala is Sīvalikumāra (I. 408), or the feminine Sīvalīdevī, wife of king

Mahā-Janaka (VI. 37). The form Devī Sivalā occurs at Bharhut in the name of this Jātaka (Lüder's *List No.* 709).

The names in this *sūtra* seem to refer to minor deities who were propitiated to grant the boon of a son, to be named after them. Most probably these were names of *Yakshas*. Viśāla is definitely a *yaksha* named in the assembly of Kubera (Sabhāparva, 10.16). Śevala, who gives *śeva* or treasure, also seems to be a *yaksha*. Śevalendra would then denote, Kubera (lord of Śevala), and a child born by propitiating him was called Śevalendradatta, or by the shortened names Śevalika, etc. Even Vedic gods were worshipped as *yakshas* in folk religion. According to the Āṭānāṭiya Sutta (*Dīghanikāya*, 32) Indra and Varuṇa are both *yakshas* like Maṇibhadra. Aryamā was closely related with child-birth and invoked for easy delivery (*Atharva.* I. 11.1). A child would thus be named after him, but the use of the name is rare, only one instance being recorded at Bharhut as Ayama (Luder's *List* No. 831). Varuṇa was also the name of a *Lokapāla* and of a *Nāgarāja*. Its use is frequent in the *Kumbha Jātaka* (V. 12). Kātyāyana's *vārttika* on this *sūtra* begins with Varuṇa, not Śevala. It shows that the *sūtra* formed part of an earlier grammar from which Pāṇini borrowed and recast it by adding three names of tutelary deities famous in his days *viz.* Sevala, Supari and Viśāla. But Kātyāyana retained for purpose of reference in his *vārttika* the original form of the *sūtra* as it began with Varuṇa.

(13) Names like Gośāla, Kharśāla (*Sthānānta-gośāla-kharaśālāchcha*, IV. 3.35), Vātsaśāla or Vatsaśāla (IV. 3 36) are derived from places of birth. Gośāla is a historical example, also called Maṅkhali, which corresponds to Pāṇini's Maskarī (VI. 1.154). As a popular name it occurs at Bharhut (Lüder's *List*, No. 853).

(14) Names ending in *putra*, and preceded by a Masculine word (*Putraḥ pumbhyaḥ*, VI. 2.132), as Kaunaṭiputra. They have an initial acute accent (*ādy udātta*). As counter-

examples, were names preceded by the name of the mother, as Gārgīputra and Vātsīputra, and distinguished by the acute accent on the final vowel. The practice of adding the mother's name to *putra* is found in the Vaṁśa list of teachers in the *Śatapatha Brāhmaṇa* beginning with Sāñjīvī-putra (*Vedic Index*, II.443 ; *Br. U.*, VI. 5). A Kātyāyanī-putra (Jātūkarṇya) and a Prātiyodhī-putra also occur in the *Śāṅkh. Āraṇyaka* (III.10 ; VII.13). It shows that such names formed part of a well recognised practice considered honourable. According to Pāṇini, one's designation after the *gotra* name of one's mother (*gotra-strī*) implied censure (IV.1.147), because it was supposed that the mother's name would be adopted only in the event of the father's name being unknown (*Kāśikā*, *Pitur-asaṁvijñāne mātrā vyapadeśo' patyasya kutsā*). But there seems to have been a change later on and Patañjali states that there is honour in being addressed by the mother's name, as Gārgīmāta, Vātsīmāta (*Bhāshya*, VII.107 ; III. 340 *mātṛīṇāṁ mātach putrārtham arhate*).

Female names are regulated in *sūtra*, IV.1.113, on which the *Kāśikā* cites *Śikshitā* and *Chintitā*. This rule also refers to women named after rivers, and also to their *apatya* or descendants *e.g.* Yāmuna, son of Yamunā. The *Vārāha Gṛihyasūtra* states that a girl should not be named after a river and this form of naming is not approved by Manu (III.9) also.

II. *Nakshatra-Nāma* : (15) Pāṇini deals at length with names derived from stars (IV.3.34;36,37 ; VIII,3.100). The *Gṛihyasūtras* refers to the *nakshatra* name in addition to the personal name. According to Apastamba the star name was kept a secret ; Gobhila enjoins that the teacher was to give his pupil a *nakshatra* name which he used in bowing to him (*abhivādanīya nāma*, *Gobhila Gṛihya*, II.10.23-23-24). The *Gṛihyasūtras* of *Śāṅkhāyana*, *Khādira*, *Mānava* and *Hiraṇyakeśī* are also of the same opinion. Originally adopted as a secret name, the *nakshatra* name as being convenient to utter became later on as popular as the *gotra* name, *e. g.*

Moggallāna Tissa in which the star name and the *Gotra* name are coupled.

Birth under a particular asterism (*Tatra jātaḥ*, IV.3.25) inspired such names. In Pāṇini's time stars were regarded as deities to whom regular worship (*bhakti*) was shown. As such the star names are indicative of the religious attitude of the people based on a belief in numerous tutelary deities, including those presiding over the several asterisms.

In star names the suffixes are often dropped (IV.3.37), *e.g.* Rohiṇa from Rohiṇī. Persons, both male and female, were named after Śravishṭhā (=Dhanishṭhā), Phālgunī, Anurādhā, Svāti, Tishya, Punarvasu, Hasta, Viśākhā, Ashāḍhā and Bahulā (*i.e.* Kṛittikā) without adding any suffix, *i.e.* the star name was synonymous with the personal name, *e.g.* Śravishṭhaḥ, Phalgunah, etc. From Abhijit, Aśvayuk and Śatabhishak the terminations were optionally dropped (IV.3.36), *e.g.* Abhijit and Ābhijita, etc.

As stated above the star names are unknown in Vedic literature, but became popular in the time of Pāṇini and later. For example, Visākhā, Punabbasu, Chittā, Poṭṭhapāda, Phaggunī, Phussa and Tissa or Upatissa occur in the *Jātakas*; to which may be added Phaguna, Phagulā, Tisaka, Upasijha (=Upasiddhya), Sijhā, Pusa, Pusaka, Pusinī, Bahula (cf. Pāṇini's Bahula), Sātila (=Svātigupta, or -datta). Asāḍha, Mūla, Poṭhaka, Poṭhadevā (=Proshṭhadevī), Rohiṇī or Rohā, etc., from Sanchi; and Bharanideva, Anurādhā and Sonā (=Śravaṇa) from Bharhut (Lüder's *List*, 784, 874).

III. *Abbreviated Names*: (16) Names ending in *ika* (V.3.78). A polysyllabic name was shortened in order to express affection. Only the first two syllables were retained with a suffix added, *e.g.* Devika from Devadatta; Yajñika from Yajñadatta; Chhaḍika at Sanchi from Chhandodatta (*List.* 380); and Yaśodatta (*List.* 757).

(17) Names with *iya* suffix (=*ghan*, V.3.79) added as before, *e.g.* Deviya and Yajñiya. The *Jātakas* add Giriya (III. 322), Chandiya (= Chandakumāra, VI.137), Nandiya (II.199; same as Nandika, II.200, or Nandaka) Bhaddiya (= Bhadrasena, Bhadrakāra or Bhadrasāla, I.140; VI.135), Meghiya (= Meghakumāra, IV.95) and Sabhiya (VI.329), but they are rare in Bharhut and Sanchi inscriptions.

(18) Names ending in *ila* (=V.3.79), *e.g.* Devila from Devadatta, and Yajñila from Yajñadatta. The Jātakas mention Guttila (II.248), Makhila (=Makhadeva, *Jāt. Nidānakathā*, p. 41); in Sanchi records are found Agila (=Agnidatta), Satila (Svāti-datta), Nāgila (Nāgadatta), Yasila, Yakhila (=Yakshadatta), Saṁghila, Budhila; and from Bharhut Mahila (L.L.766), Yakhila (846) and Ghaṭila (L.L.850).

(19) Names with the prefix *upa* were shortened in the opinion of Eastern teachers, by adding *aḍa* and *akı* (= *vuch*) (*Prāchām upādḍr-aḍaj-vuchau cha*, V.3.80), *e.g.* Upendradatta shortened to Upaḍa and Upaka (in the east) and into Upiya, Upila and Upika according to other teachers (V.3.78-79), together with Upendradattaka.

Upaka occurs as a *gotra* name in Pāṇini (II.4.69), and Upagu and Upajīva in the *Jaiminīya Brāhmaṇa* (Caland 199.249). But such names became more popular after Pāṇini.

The Bddhist name Upāli (I.140) may be from Upila. At Sanchi, however, the name appears in full as Upedadatta, Upidadatta or Opedadatta. Other names with *upa*, were *Upaka*, an Ājīvika (*Jāt.* I.81), Upakaṁsa (*Jāt.* IV.79), Upakañchana (*Jāt.* IV.395) and Upajotiya (*Jāt.* IV.382).

(20) Names ending in *ka*, a sffix added to denote (1) inferiority (*kutsite*, V.3.75), e.g. Pūrṇaka, name of a servant; and (2) benediction (*āśishi*, III.1.150), *e.g. Jīvaka* (May you live !), *Nandaka* (May you prosper !).

SHORTENED NAMES IN USE AFTER PAṆINI—Kātyāyana and Patañjali record in the following rules and

suffixes post-Pāṇinian tendencies to form abbreviated names of later times:

(*a*) Retaining the first four syllables, against two in Pāṇini (V.3.83), *e.g.* Brihaspatika from Brihaspatidatta, Prajāpatika from Prajāpatidatta. Pajaka (*Jātaka*, III.463) derived from Prajaka (=Prajāpatidatta) follows Pāṇini'rule.

(*b*) Adding *ka* suffix for Pāṇini's *ika* (No. 16 above); *e.g.* Devaka and Yajñaka for Devadatta and Yajñadatta; also Pahaka (*Jāt.* I.40, Prabhākara), Sonaka (V.247, Śonananda), Sachchaka (VI.478, Satyayajña) in the Jātakas, and Balaka (for Baladeva, Balarāma, Balamitra), Pusaka, Dhamaka, etc., at Sanchi.

(*c*) Adding *la* for Pāṇini's *ila* (No. 18 above), after words ending in *u*, e.g. Bhānula for Bhānudatta; Vasula for Vasudatta; also Bandhula (Senāpati of Kośala, *Jat* IV.148) and Rāhula (=Rāhudatta, born under the planet Rāhu).

(*d*) Eliding the first part of the name, against Pāṇini's second (*uttarapada-lopa*) and then adding the same suffixes, Devadatta would give, *e.g.* Dattika, Dattila, Dattiya, Dattaka; or Devadatta might become Datta, and Deva without any suffix. (Cf. *Bhāshya* giving Bhāmā for Satyabhāmā, I.111).

Pāṇini's Senaka (V.4.112), appears to be a Senānta name formed by dropping *pūrvapada* and adding *ka*, showing the antiquity of this custom.

Thus the single name Devadatta could appear in eleven forms: (1) Devadattaka, (2) Devika, (3) Devila, (4) Deviya according to Pāṇini; and (5) Devaka, (6) Dattika, (7) Dattila (8) Dattiya, (9) Dattaka, (10) Deva, (11) Datta according to the later rules in the *Bhāshya*.

RESUME—The following features of names in Pāṇini's time thus stand out: (1) The use of a personal name as distinct from a *gotra* name. A man was asked both his *nāma* and

gotra (*Jāt*. VI.243, *nāma-gottañ cha puchchhi*) ; cf. also Virāṭa asking Yudhishṭhira his *gotra* and *nāma* (Virātaparva, 7.11). The Bhikkhus who took *pabbajjā* retained their personal names as well as *gotras* (*nānānāma, nānāgotta, Vinayapiṭaka*, B. C. Law, *Pāli Lit*. I. xiii).

(2) Some names typical in Pāṇini but rare in Vedic literature had the endings *mitra, sena, datta, śruta, karṇa, śṛiṅga*, or were prefixed by *upa*.

(3) Personal names after stars unknown in Vedic literature are numerous in Pāṇini, Gṛihyasūtras and Pāli literature. The *Baudhāyana Gṛihyaśeshasūtra* giving a list of star names offers the closest parallel to Pāṇini (*Asht*. IV.3.34-37 ; *Baud*. I.11.9-18).

(4) The shortening of names, unknown in the Vedic literature, and passed over in silence in the Gṛihyasūtras, was popular in the time of Pāṇini and the Buddhist literature. Pāṇini knows of it as a practice well-established both in time and over a wide area including eastern India (V.3.80).

CHAPTER IV

ECONOMIC CONDITIONS

VṚITTI (*Economy*)—The science of economics later known as *Vārttā* may be connected with the word *Vṛitti*, or economic pursuits, such as *kṛishi* (agriculture), *vāṇijya* (trade and commerce) and *pāśupālya* (cattle-rearing), about which Pāṇini furnishes interesting particulars. Pāṇini uses the general term *jānapadī vṛitti* (IV. 1. 42) to indicate the economic pursuits followed in a region or State. The term *jānapadī* was older than Pāṇini and is referred to by Yāska in the expression *Jānapadīshu vidyātaḥ purusha-viśesho bhavati*, 'One gains celebrity by proficiency in the economic pursuits of the Janapada State' (*Nirukta*, I. 16).

1. AGRICULTURE

KṚISHI (*AGRICULTURE*)—Pāṇini mentions agriculture as *kṛishi*, derived from the root *kṛish*, to plough, although the term was not restricted to mere ploughing. Kātyāyana and Patañjali have an interesting discussion that *krishi* denotes not merely ploughing, but includes collectively all other operations of agriculture, such as the supply of seeds, implements, animals, and human labour.[1]

Pāṇini refers to cultivators tilling the soil, to officers measuring the fields (*kshetrakara*), to agriculture implements as *hala* and *hali*, and to the various processes of agriculture, ploughing (*halayati*, III.1.21 ; III.1.117 ; III.2.183 ; V.4.58 ; V.4.121 ; IV.4.81 ; IV.4.97), sowing (*vāpa*, IV.3.44 ; V.1.45), weeding (*mūlābarhaṇa*, IV. 4.88), harvesting (*lavana*, VI. 1.140), threshing (*khala*, IV.2.50,51) and winnowing (*nishpāva*, III.3.28).

1. *Nānākriyāḥ krisher-arthāḥ, nāvaśyam krishir-vilekhane eva vartate, kim tarhi? Pratividhāne'pi vartate yad asau bhakta-bījabalīvardaiḥ pratividhānam karoti sa krishy-arthaḥ* (*Bhāshya*, III.1.26 ; II.33).

CULTIVATORS—Pāṇini calls the husbandmen *kṛishīvala* (*Rajaḥ kṛishyāsuti-parishado valach*, V.2.112), a new word which had replaced the older Vedic term *kṛishṭi*, denoting people in general, as the most numerous class amongst them was the agriculturists (*Vedic Index*, I.183). *Kīnāśa*, another Vedic term (*Ṛigveda* IV. 57.8; *Vedic Index*, I.159) for the tiller of the soil, is only referred to in a later *Uṇādi sūtra* (*kliśerich-chopadhāyāḥ kan lopaś-cha lo nām cha*, V. 56).

In the post-Brāhmaṇical period the older word *kṛishṭi* must have been replaced by the more expressive *kṛishīvala*, 'one following agriculture as his profession,' formed by adding to *krishi* the new suffix *vala*.

LAND AND FIELDS—A village included cultivated and uncultivated land. The land which was not under the plough included *ūshara* (wasteland, V.2.107), *gochara*, pastures (III. 3.119), including cattle-ranches (*vraja*, III. 3.119), and cattlepens (*goshṭha*, V.2.18).

The cultivated land was divided into separate holdings known as *kshetra* (*Dhānyānāṁ bhavane kshetre khañ*, V.2.1). The distribution of plots implied some kind of cadastral survey of which Pāṇini gives indication when he refers to the measuring of fields in terms of the *kāṇḍa* measure. Almost synonymous with *kshetra* was *kedāra* (IV.2.40) which word is unknown in the earlier Brahmanical literature. But the *Arthaśāstra* understands *kedāra* in the sense of a wet-field, and possibly it was distinguished from *kshetra* in this special sense. A collection of adjoining wet fields was known as *kaidārya* or *kaidāraka*. Other areas used as barn (*khala*, IV.2.50) were close to one another in a group called *khalinī* (IV.2.51) or *khalyā* (IV.2. 50). The general word for arable land was *karsha* (IV.4.97), but the area actually brought under the plough was called *halya* (IV.4.97) and *sītya* (IV.4.91). *Halya* was the unit of land cultivated with one plough, as may be inferred from the examples *dvi-halya* and *tri-halya* cited in the

Kāśikā (IV.4.97). Patañjali distinguishes a bigger unit of land measure called *parama-halyā*, in excess of the normal unit *halyā*, and similarly *parama-sītya* of *sītya* (*Bhāshya*, I.1.72; I.186).

The word *sītā* (IV.4.91) is as old as the *Ṛigveda* (IV. 57.6-7), and is used in the later Saṁhitās also, where it variously represents the personified deity of agriculture and also furrow. Gradually the former sense fell into disuse. In the *Arthaśāstra* *sītā* retains its older meaning of the goddess of agriculture only in one place and there also it appears to be in an old quotation: *Sītā me ṛidhya-tāṁ devī bījeshu cha dhaneshu cha* (*Arth.* Text, II 24). Its more common sense in Kauṭilya is agricultural produce, specially from the crown lands. 'Whatever in the shape of agricultural produce is brought in by the Superintendent of Agriculture (of crown lands) is termed *sītā*' (*Arth.* II.15, p. 93; also p. 60).

In the *Ashṭādhyāyī* *sītā* has no such technical meaning. It means furrow described by a plough, and *sītya* denotes a field brought under the plough (*sītayā samitaṁ saṅgataṁ, kshetraṁ sītyam*, IV.4.91).

In the chapter *Sāsya devatā* (IV.2.24-33) Pāṇini mentions the Vedic deities of agriculture, *Suna* and *Sīra* (IV.2.32). According to Yāska these represented Vāyu and Aditya, but according to others 'the share and the plough,' (*Vedic Index*, II. 386). Oblations to these agricultural deities were known in the time of Pāṇini.

MEASUREMENT AND SURVEY—The distribution of plots among individual peasants must have depended on some kind of land survey which took note of the area and boundaries of fields. Pāṇini gives an indication of this when he prescribes the rule for expressing the area of a field in terms of a measure known as *kāṇḍa*. The *sūtra* *Kāṇḍāntāt kshetre* (IV.1.23) states that the word *kāṇḍa* preceded by a numeral takes the feminine affix *ṭāp*, if the derivative word relates to a field. The

word denoting the area of a cultivated field (*kshetra-bhakti*) must have been the object of the present *sūtra*. The *Kāśikā* cites *dvi-kāṇḍa* to denote a field measuring two *kāṇḍas*. Similarly, *tri-kāṇḍa* etc. with other numerals. *Kāṇḍa* is later interpreted as 16 cubits (*shodaś-āratny-āyāmo daṇḍaḥ kāṇḍam* ; *Bālamanoramā*). Thus 1 sq. *kāṇḍa* = 24 × 24 sq. ft.

KSHETRAKARA (III. 2.21), 'maker of a field'—This term denoted an officer who divided the cultivable area into plots by survey and measurement. Megasthenes also refers to officers whose duty was to measure lands for purposes of the assessment of revenue (*Frag.* 34). They might be the *Rajjugrāhakas* of the Jātakas who measured the land with a rope. He had the rank of an *amātya*, surveyed the fields and measured them with a rope tied to pegs, of which one end was held by him and the other by the owner of the field (*Kurudhamna Jāt.*, III. 276). The *halya* measure of land is explained by Pāṇini as *halasya karshaḥ*, *i. e.* the area cultivated by one plough (IV. 4.97) Multiples of the *halya* land measure were expressed as *dvi-halya*, *tri-halya*. Manu refers to a measure of land called *kula* equivalent to two plough-lands (*Manu*, VII. 119, *Kullūka*), same as *dohalikā* af land-grants.

CLASSIFICATION OF FIELDS—Pāṇini classifies fields, firstly on the basis of the crop grown (V. 2. 1-4), and secondly in terms of the quantities of seed required for their sowing (V. 1.45-46).

As examples of fields named after the crops grown (*Dhānyānāṁ bhavane kshetre khañ*, V. 2.1), we have: *vraiheya* for *vrīhi*, *śāleya* for *śāli* (V. 2.2). Other similar names were *yavya* barley, *yavakya* for a kind of rice, *shashṭikya* for the *shashṭikā* rice so called from its ripening in two months, *tilya* or *tailīna* for sesamum, *māshya* or *māshīṇa* for beans, *umya* or *aumīna* for linseed, *bhaṅgya* or *bhāṅgīna* for hemp, and *aṇavya* or *āṇavīna* field for the *aṇu* crop (*Panicum Miliaceum*, now called *chīnā*, V. 2.3-4).

The size of a field is also indicated by the quantity of seed required for its sowing (*Tasya vāpaḥ*, V. 1.45), *e. g.* a field sown with a *prastha* measure of seed was called *prāsthika*; similarly *drauṇika* and *khārīka*. Pāṇini refers to *pātrika* as a field requiring a *pātra* measure of seed (V. 1.46, *pātrasya vāpaḥ*).

The fields were also called after the crops for which they were suitable (*Tasmai hitam*, V. 1.5), *e. g.* fields for barley called *yavya*, for beans *māshya*, and for sesamum *tilya* (V. 1.7).

AGRICULTURAL IMPLEMENTS—The plough is named (*sīra-nāma*, VI. 2.187) in several sūtras as *hala* (III. 2.183; IV. 3.124; IV. 4.81; VI. 3.83). *Lāṅgala*, a plough in the *Rigveda* and later (*Vedic Index*, II. 231), was one of the synonyms of *sīra* referred to in *sūtra*, VI. 2.187.[1] A large plough was called *hali* (III. 1.117), which was also known as *jitya*, perhaps from its utility to break even the hardest ground and to reclaim waste land. (III. 1.117). The two words *hali* and *jitya* are still preserved in the Avadhī dialect where reciprocal assistance in tillage is called *harī* or *jītu* (Patrick Carnegie, *Kachahri Technicalities*, Allahabad (1877), p. 14). This implied the lending of one's plough and bullocks to one's neighbour.

Pāṇini mentions three classes of farmers: (1) not possessing a plough of their own (*ahali*, also called *apahala*, *apasīra* or *apalāṅgala*, VI. 2.187); (2) having a good plough (*suhalaḥ*, *suhaliḥ*); and (3) with a bad plough (*durhali* or *durhala*, V. 4.121).

Kātyāyana considers the plough as a mark of prosperity in the benedictory formula '*Svasti bhavate sahahalāya* or *sahalāya*,' 'May you have good luck with your plough!'

1. Kātyāyana is more explicit and mentions *lāṅgala* in a *vārttika* on III. 2.9. (*Bhāshya*, II. 99, *lāṅgala-graha*).

The plough was made up of three parts : (1) the long wooden pole (*ishā*), (2) the central bent portion called *potra* (III. 2.183), and (3) the plough-share or *kuśī* fitted in the *potra* and made of iron (*ayovikāra*, IV. 1.42). In Vedic literature the share was called *phāla* (*Vedic Index*, II.58; *Ṛig*. IV.57-58). The plough was drawn by bullocks (IV. 4.81) called *hālika* or *sairika*, as distinguished from others for drawing carts and chariots (IV.4.76; IV.4 80). They were fastened to the yoke (*yuga*) by a rope called *yotra* or *yoktra* (III.2.182), or leathern thongs called *naddhrī* (III.2. 182). In the *Khaṇḍikādi*[1] group we have *yuga* and *varatrā*, which refer to the yoke and the thick long rope used for lifting water from a well, still called *barat* in western and *barrā* in eastern Hindi. The whip was called *vyaja* (III.3. 119) and *totra* (III.2.182); the spade *khanitra* (III.2.184) and *ākhana* or *ākhāna* (III 3.125); the hoe for uprooting weeds and stumps *stambaghna* (III.3.83). The ripe grain was cut with a sickle for which besides the old Vedic word *dātra* (III.2.182) a new word *lavitra* (III.2.184) had come into use. Yāska (*Nir*. II.2) says that the sickle was called *dātra* in the North, and *dāti*[2] in the East. Patañjali repeats this information.

AGRICULTURAL OPERATIONS—The operations of agriculture are neatly summed up in the *Śatapatha Brāhmaṇa* (I.6.1.3), as ploughing, sowing, reaping and threshing (*krishantaḥ, vapantaḥ, lunantaḥ, mriṇantaḥ*). In the *Ashṭādhyāyī* all these are distinctly mentioned.

(*i*) *Ploughing* (*karsha*). The ploughed land was called *halya* (IV.4.97). Ploughing is referred to by the new term *halayati*, 'he holds the plough' (III.1.21).[3] We learn from

1 The *Khaṇḍikādi* group (IV.2.45) in one of those *gaṇas* which had been subjected to a searching analysis by Patañjali (II.280) and all subsequent commentators, and hence its text may be considered reliable.

2 *Dātir lavanārthe Prāchyeshu, dātram Udīchyeshu* (*Nir*. II.2.; *Bhāshya*, I.9).

3 *Muṇḍa..... hala-kala-krita-tūstebhyaḥ ṇich*, III.1.21. According to Kātyāyana *hala* is the substitute for the original *hali* (*See Bhāshya*, II.28).

Patañjali that agricultural labour was employed for ploughing. It enabled the owner of the land to sit in a corner and supervise the ploughing done by five hired labourers (*ekānte tūshṇīm-āsīna uchyate pañchabhir-halaiḥ krishatīti, tatra bhavitvyaṁ pañchabhir-halaiḥ karshayatīti*, *Bhāshya*, II.33). The labourers received *bhakta* or food in lieu of wages. This food was supplied at the time required.

The Greeks in India were struck with the amazing fertility of the soil (*Meg.* Frag.I) and the skill of the agriculturists (Arr. *Anab.* V.6) Pāṇini knows of deep ploughing. It was effected by driving the plough twice (*dvitīyā-karoti*), or thrice (*tritīyā-karoti*, V.4.58). The *Artha-śāstra* also (II.24, p. 116) refers to ploughing three times (*trīn karshakān*) in heavy rains. Pāṇini also refers to ploughings done more than three times (*Saṁkhyāyāś-cha guṇāntāyāḥ*, V.4.59). To make cultivation more fruitful and intensive it was the custom to plough the same field over again from one end to the other in a reverse direction (*śambā karoti*, V.4 58; *anulomakrishṭaṁ kshetraṁ punaḥ prati-lomaṁ krishat-īty-arthaḥ*). The Greeks testify to the careful ploughing habits of the people in this country (*Meg.* Frag.I).

(ii) *Sowing* (*vāpa*). After the soil was prepared by ploughing, it was fit to be sown (*vāpya*, III 1.126). In some cases ploughing was done in a field with seed already scattered in it, *e.g.* *bījākaroti* (V.4.58), which the *Kāśikā* explains as *saha bījena vilekhanaṁ karoti*.

The sowing of mixed crops was also known, specially during the rainy season. Patañjali states that sesamum was sown with beans, but in such combining beans predominated as the main crop and sesamum was subsidiary, so that the ploughing was done according to the requirements of the main crop. The seeds of the minor crop were scattered at sowing (*Bhāshya* on II.3.19). The trend of Patañjali's discussion is that the mixing of *tila* with *māsha* is not obligatory for good germination, for if it were so, then both the crops would have to be considered as

principal crops. Only when one is the principal (*pradhāna*) as *māsha*, and the other secondary as *tila* (in this case), can the sentence *tilaiḥ saha māshān vapati* be an appropriate example of *sūtra* II.3.19, *Sahayukte apradhāne* (*Bhāshya* on II.3.19).

Farming is an operation vitally connected with Mother Earth and the farmers naturally attached great religious significance to the actual sowing of seed, for which purpose they selected auspicious days. Pāṇini tells us that one of the auspicious days for sowing was the full-moon day of the month of Agrahāyaṇa (*Āśvayujī Paurṇamāsī*, IV.3.45). The *Śaratpūrṇimā* is the brightest and clearest moonlit night in the whole year and is still considered auspicious for operations connected with agriculture and plantation.

(*iii*) *Reaping* (*lavana*, VI.1.140). The ripe grain[1] was cut by a sickle (*dātra* or *lavitra*, III.2.182 ; 184). The operation of mowing was called *abhilāva* (III.3.28, *Nirabhyoḥ pūlvoḥ*). In the present day dialects it is called simply *lāva* ; at the time of *lāva* there is much buzzing activity in the fields and extra labour is engaged. The mowers were kown as *lavakāḥ* (III.1.149). Pāṇini also refers to a special method of harvesting (VI.1.140, *Kiratau lavane*) expressed by the verb *upaskirati*, which refers to reaping, not from one end of the field to the other, but in an unsystematic manner. We learn from the *Kāśikā* that such a practice prevailed in the countries of Madra and Kashmir (*Upaskāraṁ Madrakā lunanti* ; *upaskāraṁ Kāśmīrakā lunanti*). Some cereals such as *māsha* and *mudga* cannot be harvested without uprooting the whole plant and were called *mūlyāḥ* (IV.4.88, *Mūlamasyābarhi*). The stumps were weeded by a special kind of hoe called *stambaghna* (III.3.83).

(*iv*) *Threshing* (*nishpāva*, III.328). The reaped crop was stacked on a threshing floor (*khala*). A plot was set apart for purposes of threshing, and was called *khalya*,

1 The grain which had so much ripened as to require immediate reaping would be called *lāvya* (cf. *Kāśikā* on III.1.125).

'good as a threshing floor' (V.1.7). A group of adjoining threshing floors was called *khalyā*, (IV.2.50) or *khalinī* (IV.2 51). Kauṭilya prescribes clustered siting of threshing floors for the purpose of safety: 'The threshing floors of different fields shall be situated close to each other'. (*Arth.* II.24).

Winnowing was done by scattering corn (*utkāra* or *nikāra* from *kṛī dhānye*, III.3.30) with a winnowing fan (*śūrpa*, V.1.26) in the direction of the wind, and separating grain from chaff (*nishpāva*, III.3.28)

The stages as they followed in order of time in the process of harvesting are indicated by appropriate terms as given below :[1]

1. *lūyamāna-yavam*, when barley was being harvested (as explained by Vardhamāna in the *Gaṇaratna-mahodadhi*);
2. *lūna-yavam*, when the harvesting was completed ;
3. *pūyamāna-yavam*, when barley was being winnowed ;
4. *pūta-yavam*, when the winnowing was completed ;
5. *khale-yavam*, when barley grain was heaped on the threshing floor ;
6. *khale busam*, when the straw was separated from the grain and heaped on the floor ;
7. *Saṁhriyamāṇa yavam*, when barley was being collected;
8. *saṁhṛita-yavam*, when it was garnered;
9. *saṁhṛiyamāṇa-busaṁ*, when the straw was being collected ;
10. *saṁhṛita-busaṁ*, when the straw was gathered in.

1 The ten words in this list form part of the *Tishṭhadgu* group (II.1.17) ; Kātyāyana's *vārttika* on it, *khaleyavādīni prathamāntāni anya-padārthe*, and Patañjali's comments on the same (*Bhāshya*, I.381) show that the words were read by Pāṇini himself.

Kauṭilya also directs that grains and other crops shall be collected as often as they are harvested. No wise man shall leave anything in the fields, not even straw (*Arth.* II.24). That the above terms refer to the barley crop is suggestive of the place of their origin being the Punjab where barley was one of the staple crops.

Pāṇini knows of crop-loans and instances *yava-busaka* (IV.3.48), *i.e.* the loan to be repaid when the straw of barley would be available. Patañjali refers to bumper harvest of barley and rice (*Eko vrīhiḥ sampannaḥ subhiksham karoti ; eko yavaḥ sampannaḥ subhiksham karoti, Bhāshya,* I.230). He also points out that barley was the staple crop of Uśīnara and Madra (Udīchya or Punjab), as rice was of Magadha (*Uśīnarāvan-Madreshu yavāḥ, Bhāshya,* I.147 ; *tān eva śālīn bhuñjmahe ye Magadheshu,* I.19). Barley was so important a crop that its cultivation was guarded by special officers mentioned by Pāṇini as *yavapāla* (*Go-tanti-yavaṁ pāle,* VI.2.78).[1]

RAINFALL—Pāṇini refers to the rainy season as *prāvṛish* (IV.3.26; VI.3.14) and *varshā* (IV.3.18), the former was the first part of the season (Hopkins, Epic Chronology, *J.A.O.S.*, 1903, p. 26). These two parts were known as *pūrva-varshā* and *apara-varshā* (*Avayavād-ṛitoḥ,* VII.3.11). He also refers to *varsha-pramāṇa* (III.4.32), measurment of rain-fall, of which *goshpada* is mentioned as the measure of lowest rain-fall (VI.1.145). Kauṭilya speaks of the quantity of rain (*varsha-pramāṇa*) in Jāṅgala and other parts of the country. Failure of rain or drought (*varsha-pratibandha*) is referred to as *avagraha*[2] (III.3.51). Pāṇini mentions two crops in the year as *vāsantaka* (vernal) and *āśvayujaka* (autumnal) (IV.3.45 ;

1 Patañjali refers to danger to barley crop from herds of deer : *Na cha mrigāḥ santīti yavā nopyante* (*Bhāshya,* I.100). This proverb with that of the *Sthāli* and *Bhikshus* is quoted in the *Kāmasūtra* under the name of *Vātsyāyana.*

2 Besides *avagraha* known to Pāṇini, Patañjali mentions other pests to crops from swarms of mice, locusts and hawks (*ākhūttha, śalabhottha, śyenottha,* III.24 ; II.98).

46). Megasthenes also noticed that India had a double rainfall and a double crop every year.

IRRIGATION—Pāṇini refers to many important rivers as the Sindhu, Suvāstu (IV.2.77), Varṇu (IV.2.103), Sarayū (VI.4.174), Vipāś (IV.2.74), Chandrabhāgā (IV.1.45), which served as sources of irrigation. He also refers to Devikā (VII.3.1) the banks of which were specially suitable for growing paddy crops as pointed out by Patañjali (*Dāvikā-kūlāḥ śālayaḥ*, *Bhāshya*, III.316). Pāṇini also refers to the melting of snow in the hills as *himaśratha* (VI 4.29) and glaciers as *himānī* (IV.1 49). Irrigation with water from the wells was also known, as indicated by the word *udañchana* (III.3.123), the large leathern bucket used for lifting water, and also *yuga-varatrā*, 'the yoke and the rope by which the bullocks were driven for raising the water (*Gaṇa-pāṭha* to IV.2.45).

Patañjali speaks of canals for irrigating paddy fields (*śālyartham kulyāḥ praṇīyante*, *Bhāshya*, I 1.24; I.82).

CROPS—Crops were of two varieties, (1) *krishṭa-pachya* (III.1.114), grown by cultivation, and (2) *a-krishṭa-pachya*, naturally growing in the jungles as the *nīvāra* rice. They are further classified according to the time of sowing (IV.3.44; 46) and the ripening crops sown (*pachyamāna*, IV.3.43).

According to the time of sowing (*upte cha*, IV.3.44) there were three crops, (1) sown on the full-moon day of the month Āśvayuja or Āśvina (Sept.-Oct.), called *āśvayujaka* (*Āśvayujyā vuñ*, IV.3.45); (2) sown in summer, called *graishma* or *graishmaka*; and (3) sown in spring and named *vāsanta* or *vāsantaka* (*Grīshma-vasantād-anyatarasyām*, IV.3.46).

The *āśvayujaka* crops are chiefly barley and wheat which ripen in spring. The crops sown in spring ripen in the rains, and those sown in summer ripen in autumn or the month of Mārgaśīrsha.

Kauṭilya also refers to the succession of crops from season to season, e.g. *vārshika sasya* (rainy crops) followed by *haimana mushṭi* (autumnal harvest) in Mārgaśīrsha (November-

December) ; *haimana sasya* (autumnal crops) followed by *vāsantika mushṭi* (spring harvest) in Chaitra (March-April) ; and finally *vāsantika sasya* (spring crop) followed by *vārshika mushṭi* (rains harvest) in Jyeshṭha (May-June). *Sasya* (crop) is the same as *vāpa* (sowing) and *mushṭi* (harvest) as *pachyamāna* (ripening) of Pāṇini. The evidence from these two sources may be thus tabulated :

. Name of crop (*sasya*) in Kauṭilya according to sowing season (*vāpa-kāla*)	2. Name of produce (*mushṭi*) in Kauṭilya according to ripeng or harvesting season (*pachyamāna*)	3. Time	4. Corresponding names in Pāṇini for the crops according to the time of sowing (*upte cha*)
1. *Varshika*	*Haimana*	*Mārgaśīrsha*	1. *Graishma* and *Graishmaka* (IV.3.46)
2. *Haimana*	*Vāsantika*	*Chaitra*	2. *Āśvayujaka* (IV.3.45.)
3. *Vasantika*	*Vārshika*	*Jyeshṭha* and *Mūla*	3. *Vāsanta* and *vāsantaka* (IV.8.46).

Columns 1 and 4 are similar with the exception of Pāṇini's summer crop (*graishma*) for which there is rainy crop (*vārshika*) in Kauṭilya. Although the *Arthaśāstra* also knows of *graishmika* crops (*Arth.* II.24, p. 117),[1] their raising entailed much hard labour for the agriculturists. Hence Kauṭilya directs that only the king who is in financial trouble and who has exhausted other means of replenishing his exchequer, should prevail upon the peasantry through his collector-general to raise summer crops (*Arth.* V. 2, Tr. p. 271).

AGRICULTURAL PRODUCE

1. *Cereals (Dhānya) and Pulses.* Pāṇini mentions the following food grains and pulses :

Vrīhi. Special fields for growing *vrīhi* and *śāli* are mentioned (*Vrīhi-śālyor-ḍhak*, V. 2. 2). The sacrificial cake

1. *Karmodaka-pramāṇena kedāraṁ haimanaṁ graishmikaṁ vā sasyaṁ sthāpayet Arth.*, II. 24.

made from rice is called *vrīhimaya* (IV. 3.146). One who possessed a stock of rice was known as *vrīhimān*, *vrīhika* or *vrīhī* (V.2.116), all being epithets of a rich man. *Bahu-vrīhi*, the name of a compound (II.2.23) is synonymous with *vrīhimān*, *i.e.*, one who has a plentiful stock of *vrīhi*. According to the *Taitt. Saṁhitā* (VII.2.10.2) *vrīhi* was an autumnal crop (*Vedic Index*. I. 182).

The following varieties of rice are mentioned :

(*i*) *Śāli* (V.2.2). It was defferent from *Vrīhi* as stated by Kauṭilya also. *Vrīhi* corresponds to Hindi *dhān*, and *śāli* to *jaḍahan*. *Śālī* crop was harvested in the cold season, and *vrīhi* in the rainy season. *Vrīhi* is a much older word used in the *Vājasaneyī Saṁhitā* (XVIII.12) and the *Bṛihadāraṇyaka Upanishad* (VI.3.13) as the first of the cultivated grains (*grāmya-dhānyas*). Patañjali refers to red rice (*lohitaśāli*, I.403) and irrigation channels for watering the *śāli* crop.

(*ii*) *Mahāvrīhi* (VI. 2. 38), a well-known variety of rice in the time of Pāṇini, also mentioned in the *Taittirīya Brāhmaṇa*, III. 1. 5. 2.

(*iii*) *Hāyana* (III.1.148), a kind of *vrīhi* grown by transplanting, popularly called *jaḍahan*.

(*iv*) *Shashṭikā*, ripening in sixty days (*Shashṭikāḥ shashṭirātreṇa pachyante*, V.1.90). According to Kātyāyana it was a specific term for rice irrespective of its etymology. Other crops taking sixty days to ripen would not be called by this term. (*Shashṭike saṁjñāgrahaṇam* ; also *Bhāshya* on it II.360). *Sānṭhī* (Hindi name of *Shashṭika* rice) was best suited to grow in the Punjab, since it does with but little water. It is a coarse rice, the grains of which aggultinate when boiled (Watt's *Dictionary of Economic Products*, Vol. V, pp. 620-21).

(*v*) *Nīvāra*, (*Nau vṛi dhānye* III. 3. 48), wild or uncultivated variety of rice included under *a-kṛishṭa-pachya* class.

2. *Yava* (Barley). Fields for growing barley were called *yavya* (V. 1. 7). Pāṇini refers to *yavānī* (IV. 1. 49),

a kind of crude and coarse barley according to Kātyāyana. *Yavaka* (V. 2. 3) may be another variety of barley grown in special fields (*yavakya kshotra*, V. 2. 3).

Barley was sown in the beginning of winter, probably on the *Āśvayujī Pūrṇimā* (IV.3.45), considered auspicious for sowing. A ceremonial sowing of barley is still practised in Hindu homes on the first bright day of the month of *Āśvayuja*, and its young sprouts (*yavāṅkura*) are worshipped on the tenth day of the same month. Barley ripens as a vernal crop, and the season of its harvesting is referred to by Pāṇini by about half a dozen names, such as *yavabusa* (IV.3.48), *khale-yava*, *lūna-yava*, *pūta-yava*, *pūyamāna-yava*, *saṁhṛita yava* and *saṁhriyamāṇa-yava*(II 1.17).

3. *Mudga* (Phaseolus Mungo) (IV.4.25).

4. *Māsha* (Phaseolus Radiatus) (V.1.7. V.2.4).

The two names occur also in the list of the *Vājasaneyī Saṁhitā* (XVIII.13). Fields for growing *māsha* were called *māshya* and *māshīṇā*, from which the crop is still called *māsīnā*. As examples of crops harvested by uprooting, the *Kāśikā* quotes *māsha* and *mudga* on *sūtra* IV.4.88. (*mūlyāḥ māshaḥ*, *mūlyāḥ mudgāḥ*). We are told by Watts that in certain districts the crop is cut, in others it is pulled out (Watt's *Dictionary*, Vol. VI, Pt. I, p. 189). Patañjali says that *mudga* also takes sixty days to ripen like the *shashṭikā* rice (*Bhāshya*, II. 360). He also refers to *rājamāsha* (*rājamāshebhyo hitam rājamāshyam kshetram*, II.345) which is a variety of *māsha* grown principally in the Punjab.

5. *Tila* (sesamum). Both in the Vedic literature and Pāṇini *tila* is mentioned in connection with *māsha* (V.24. and V.1.7, *tila-māsha* and *māsha-tila*). Pāṇini does not explicitly mention the two varieties of *tila*, black and white, but he refers to the use of the same in the *śrāddha* ceremony (VI. 3.71; IV.2.58) where only the black grains are used. They are known to Patañjali also *krishṇatilebhyo hitaḥ krishṇatilyaḥ*, II.345). Pāṇini knows of the oil extracted from the *tila* seeds (IV. 3. 149), but later grammarians thought that there is no derivative sense attaching to the

word *taila*, and therefore, it should be taken not as a word but as a suffix in such names as *sarshapa-taila* and *iṅguda-taila* (*Bhāshya*, V.2.97; II.379).

6. *Aṇu* (*Panicum Milaceum*, V.2.4). A very small grain consumed mostly by poorer people, growing as a rainy crop and mentioned with *priyaṁgu* in the *Yajurveda* (XVIII.13)

7. *Kulattha* (*Dolichos Biflorus*, IV.4.4), horsegram, popularly known as *kulathi*, is grown specially in the Punjab in the Trigarta region (Hoshiarpur, Ambala, Simla) as an autumnal crop. It is eaten as pulses or groats, but Pāṇini mentions it as a flavouring. ingredient (*saṁskāraka dravya*, IV.4.4). Like *shashṭika*, *kulattha* also occurs for the first time in the *Ashṭādhyāyī*. Kauṭilya notes it as a crop grown at the end of the rainy season (*Arth*. II.24).

The *Gaṇa-pāṭha* of IV.3.136 adds a few more names to the above list of cereals, *e.g. masūra* (*Ervum Hirsutum*), *godhuma* (wheat) and *gavedhukā* (*Coix Barbata*, *Vedic Index*, I.223). According to Kātyāyana *gavedhukā* formed part of the *Bilvādi* group (IV.3.136; *Bhāshya*, II. 323).

II. *FIBROUS PLANTS*—Pāṇini mentions *umā* (linseed) and *bhaṅgā* (hemp) and also the fields named after them (V.2.4). Kauṭilya refers to *atasī* and *śaṇa* in place of *umā* and *bhaṅgā*. Pāṇini also mentions cloth made from linen as *auma* and from wool as *aurṇa* (*Umorṇayor vā*, IV.3.158). For Pāṇini's acquaintance with *karpāsa* or cotton we have to depend on the reading of the *Bilvādi-gaṇa* (IV.3.134). He, however, knows *tūla* (III. 125) which might have denoted cotton.

Patañjali raises an interesting discussion on *sūtra* V.2.4. as to whether *umā* (linseed) and *bhaṅgā* (hemp) can come under the category of *dhānyas* or not and sums up by saying that the derivative meaning of *dhānya* is 'what pleases', and since *umā* and *bhaṅgā* are profit-yielding commercial crops which must please the grower they too count as *dhānyas*. He further observes that the number of

dhānyas is seventeen, a list in which *śaṇa i. e. bhaṅgā* is also included, hence there should be no objection to treating *umā* and *bhaṅgā* as *dhānyas* for purposes of Pāṇini's rules.

III. *SUGAR-CANE* (*IKSHU*)—It is mentioned in *sūtra* VIII. 4 5, and the manufacture of *guḍa* from sugar-cane is implied in rule IV 4. 103 (*Guḍādibhyashṭhañ*) on which the illustration *gauḍika*, meaning 'excellent for making *guḍa*' presumes sugarcane.

IV. *KUSTUMBURU* (VI 1.143), the spice coriander (*Coriandum Sativum*) In the South Indian languages the words for coriander bear a closer affinity to Sanskrit *kustumburu*, *e. g. ko'tamalli* (Tamil), *kotimiri* (Telugu) and *kotambari* (Kanarese). It seems to have been a loan-word in Sanskrit.

V. *DYE-STUFFS*—Pāṇini refers to *mañjishṭha*, madder (VIII 3.27) and *nīlī*, indigo (IV. 1.42). *Mañjishṭha* (Indian madder, *Rubia Munjista*) is also mentioned in the *Aitareya* (III. 2.4.) and *Sāṅkhāyana* (VIII. 7) *Araṇyakas*. Pāṇini derives *mañjishṭha* from *mañji* and *stha*, where *mañji* may mean a cluster of flower blossoms. The permanent dye made from madder has always been highly prized for its deep tinctorial quality. The great part of the madder used in the Punjab is that imported by the Lohani Afghans from the hills of North Baluchistan, Kabul and Khorasan to Multan and Peshawar. (Watt's *Dictionary*, Vol. VI, pt. I, p. 574).

Nīlī is according to Kātyāyana the name of the indigo plant. In Pāṇini's time *nīla* was a kind of cloth (*āchchhādana*, IV. 1.42), dyed with indigo blue. According the McCrindle: "It appears pretty certain that the culture of the indigo plant and the preparation of the drug have been practised in India from a very remote epoch." (*Periplus*, p. 17). In the post-Vedic language *nīla* describes the colour of dark blue objects, such as indigo, sapphire, etc. (*Vedic Index*, II. 246, foot-note). In Pāṇini the indigo plant as the source of this colour was known and this is the earliest reference to this plant in Sanskrit literature.

CH. IV, SECTION 2. FLORA

The study of Pāṇinian flora furnishes an important chapter in the general history of Indian plants which still remains to be written on the basis of literary and archæological sources. Pāṇini refers to the systematic cultivation of forests and groves of trees and plants and to early attempts at nomenclature on the basis of their flowers, leaves, fruits and roots. He is acquainted with the principal trees of north India, a good many of which are referred to by him for the first time.

FOREST—Pāṇini uses the term *vana* in a two-fold sense, (1) natural forests, such as *Puragāvaṇa*, *Miśrakāvaṇa*, (*Misrikh* forest in Sitapur district, VIII. 4.4.); and (2) cultivated groves of trees and fruit-bearing plants, such as *āmravaṇa*, *khadiravaṇa*, *ikshuvaṇa*, which were also used as common names (*asaṁjñāyām api*, VIII. 4.5). Pāṇini calls a large forest *araṇya* (IV. 1.49) and Kātyāyana *araṇyānī* (*Bhāshya*, II. 220).

Pāṇini refers to forests classified on the basis of their produce, *e. g.* (1) *oshadhi-vana*, tracts producing harbs, as *dūrvā vana*, *mūrvā-vana*, and (2) *vanaspati-vana*, those producing timber trees as *śirīshavana* and *devadāruvana* (VIII. 4.6).

OSHADHI AND VANASPATI—The plant kingdom is usually classified into two convenient divisions as *oshadhi* and *vanaspati*, plants and trees (*Vibhāsh-aushadhi-vanaspatibhyaḥ*, VIII. 4.6). The word *vṛiksha* is synonymous with *vanaspati* in *sūtra* IV, 135 (*Avayave cha prāṇy-oshadhi-vṛikshebhyaḥ*), with which Kātyāyana agrees (*sūtra* II. 2.12, which prescribes optionally singular number for compounds of tree names, *Bhāshya* I. 475). *Tṛiṇa* and *dhānya* (grasses and cereals) mentioned separately from *vṛiksha* (II. 4.12), must have been included under *oshadhi*, which in addition to

these two comprised other divisions of annual plants, such as creepers.

Patañjali speaks of a tree as consisting of roots, trunk, fruits and leaves (*mūla-skandha-phala-palāśavān*, I. 219). Pāṇini mentions all these parts in different *sūtras*, and in his view the plants were named after the peculiarity of their leaves, flowers, fruits and root (*parṇa*, *pushpa*, *phala*, and *mūla*, IV.1.64), *e.g.* *śaṅkhapushpī*, (*Andropogon aciculatus*), a herb with a flower white like conch-shell. He mentions that a fruit was generally named after its tree, without the addition of any suffix (*Phale luk*, IV.3.163), as *āmalaka*, fruit of the *āmalakī* tree.

TREES—The following trees are mentioned in the *sūtras* :

1. *Aśvattha* (IV.3.48), *Ficus religiosa*. Pāṇini takes *aśvattha* to signify the time when these trees bear fruit (*yasmin aśvatthāḥ phalanti*, *Kāśikā*).

2. *Nyagrodha* (VII.3.5), *Ficus bengalensis*. Pāṇini also mentions its other name *vaṭa* (VI.2.82), a new word unknown in Vedic literature.

3. *Plaksha* (IV.3.164), *Ficus infectoria*, mentioned in connection with its fruits called *plāksha*, and its groves called *plaksha-vaṇa* (VIII.4.5).

4. *Āmra* (VIII.4.5), *Mangifera indica*, with its groves called *Āmra-vaṇa*. This is one of the earliest references to *āmra* in Sanskrit literature.

5. *Palāśa* (IV.3.141), *Butea frondosa*. The *Palāśādi-gaṇa* mentions seven other trees, *e.g.* *Khadira*, *Śiṁśapā*, *Syandana*, *Karīra* *Śirīsha*, *Yavāsa* and *Vikaṅkata*.

6. *Bilva* (IV.3.136), *Aegle Marmelos*, the wood-apple tree.

7. *Khadira* (VIII.4.5), *Acacia catechu*. In Pāṇini *Khadiravaṇa* is both a proper name and also applied to a grove containing catechu trees. As a proper name it is mentioned as the abode of Revata, the foremost of the

forest recluses (*Khadiravaniya*, *Aṅguttara Nikāya*, XIV 1; see *Journal of the Deptt. of Letters*, Calcutta University, 1920, p. 233). Patañjali speaks of its white trunk (*gaura-kāṇḍa*), small leaves (*sūkshma-parṇa*), and hard bark (*kaṅkaṭavān*, I.113).

8. *Śiṁśapā* (VII.3.1), *Delbergia Sisoo*; also included in the *Palāśādi* group (IV.3.141).

9. *Varaṇa* (IV.2.82), *Crataeva religiosa* (Hindi *barnā*). Varaṇā (Gk. Aornos) situated near the groves of this tree.

10. *Śamī* (V.3.88 and IV.3.142). *Prosopis spicigera*, found in the arid dry zones of the Punjab, Sindh and Rajputana (Watt, *Dict.*, Vol. VI, pt. I, p. 340; Hindi name *chhaukrā* and *jaṇḍ*). A small tree was called *śamīra*, and articles made of it *śāmīla*.

11. *Pīlu* (V.2.24 and VI 3.121), *Salvadora indica*, a large evergreen tree of the same habitat as *śamī*. Payment made, or incidents happening under the *pīlu* trees were called *pailumūla* (V.1.97). The Vāhīka country had large forests of *pīlu* trees (Karṇaparva, 44, 31). Such places were used by the cattle thieves as places for concealing stolen animals (Watt, *Dict.*, Vol. VI, pt. II, p. 448), and as out of the way places they gave scope to criminal acts, as stated in the *Mahābhārata* (Karṇaparva, 30.24). The ripe small berries of *Pīlu* were called *pīlukuṇa* in the time of Pāṇini (V.2.24), a word still surviving in the Punjabi dialect as *pilaknā* (पिलकना).

12. *Kārshya* (VIII.4.5) synonymous with the *Śāla* (*Shorea robusta*). The reference to the forests of *Kārshya* trees (*Kārshya-vaṇa*) is important as pointing to the Terai forests of *Śāla* trees in eastern India.

13. *Piyūkshā* (VIII.4 5) is a variety of *Plaksha*, also mentioned in the *Talādi* (IV.3.152) and *Kāśādi* (IV.2.80) groups.

14. *Tāla* (IV.3.152), *Borassus Flabelliformis*. Bows made of *Tāla* are referred to in the *Mahābhārata* and the *Kāśikā* (*Tālād-dhanushi*).

15. *Jambū* (IV.3.165), *Eugenia jambolana*, of which the fruits were called *jāmbava* and *jambū*.

16. *Harītakī* (IV.3.167); *Terminalia chebula*, noted especially for its fruits, also called *harītakī* (yellow myrobalan).

17. *Vaṁśa* (V.1.50) bamboo, also known as *veṇu* and *maskara* (VI.1.154); the latter is also mentioned in the *Ṛik-tantra* (*maskaro veṇuḥ*, *sūtra* 210).

18. *Kāraskara* (VI.1.156), stated as the name of a tree, is in the *Mahābhārata* the name of a people identified with the Āraṭṭas (Jayaswal, *J.B.O.R.S.*, 1933, p. 115), but the two words appear to be different.

19. *Sidhrakā* (VIII.4.4), mentioned as the proper name of a forest. The *Sāma-Vidhāna Brāhmaṇa* refers to the fuel of the Saidhrika tree (III.6.9), of which the wood was hard (*sāravriksha i.e.* catechu; also *Taittirīya Brāhmaṇa*, III.4.10). *Sidhrakā* and *Saidhrika* were the same.

20. *Vishṭara* (VIII.3.93), a tree but unidentified.

The names of trees in the *gaṇas* are:

1. *Karkandhū* and *Badara* (V.2.24), *Zizyphus jujuba*.

2. *Kuvala* (V.2.24), as above.

3. *Kuṭaja* (V.1.50), *Holarrhena antidysenterica*.

4. *Pāṭalī* (IV.3.136), *Stereospermum suaveolens*. That Pāṇini included it in the *Bilvādi* group is inferred from Patañjali's example, *pāṭalāni mūlāni* (*vārttika* 2, *sūtra* IV.3.166; II.328). Patañjali implies that *Pāṭalī* takes *aṇ* by IV.3.136 to denote 'the roots thereof' and since the *aṇ* suffix is not elided as a case of exception to the *vārttika Pushpa-mūleshu cha bahulam*, the *ī* of Pāṭalī is elided in the form *pāṭala*.

5. *Vikaṅkaṭa* (IV.3.141), *Flacourtia sapida*.

6. *Iṅgudī* (IV.3.164), *Ximenia aegyptiaca*.

7. *Śalmalī* (IV.2.82), Silk cotton tree, *Bombax Malabaricum.*

8. *Udumbara* (IV.3.152), *Ficus glomerata*

9. *Nīpa* (IV.3.152), *Nauclea kadamba.*

10. *Dāru* (IV.3.152) referring to *Pītadāru* or *Devadāru* which as the name of a tree ending in *u* seems to be implied in *sūtra* IV.3.139. *Pītadāru* also occurs in *Phiṭ sūtra* (no. 37) and *Sarala*, a name of *Devadāru* (*Cedrus deodara*) in Patañjali (II.81).

11. *Rohītaka* (IV.3.152), *Andersonia rohitaka.*

12. *Vibhītaka* (IV.3 152), *Terminalia belerica.*

13. *Śirīsha* (IV.2.80), *Mimosa sirisa* (*Albizzia Lebbek*), mentioned in connection with the town *Sairīshaka* (modern Sirsā, named after it.

14. *Spandana* or *Syandana* (IV.3.141), *Ougeinia Dalbergioides*, an ancient tree known in the *Rigveda* (III 53.19). It is one of the best woods for shock-resisting ability and was used for making chariots, also called *syandana* (cf. Hindi *Sāndan*).

15. *Kaṇṭakāra* (IV.3.152), *Solanum jaquini.*

16. *Karīra* (4.3.141), *Capparis aphylla.* Karīraprastha, a town, (VI.2.87) was named after this tree.

GRASSES AND WEEDS—Pāṇini mentions the following grasses (*tṛiṇa*, II.4.12) in the *sūtras*:

1. *Śara* (VIII.4.5), *Sacchrum arundinaceum.* Pāṇini mentions *Śaravaṇa* as the name of a forest and *Śarāvatī* (VI. 3.15) as a river. Patañjali mentions the names of two grasses as *śara-śīryam* II.4.12, I. 476). *Śara* is well-known, and *śīrya* should be identified with *sairya*, mentioned earlier in the *Ṛigveda*, I.191.3.

2. *Kāśa* (IV.2.80 and VI.2.82), *Saccharum spontaneum.*

3. *Kuśa* (*Poa cynosuroides*) occurs in such words as *kuśāgra*, (V.3.105) and *kuśala* (V.2.63). Its feminine from

was *kuśā* (IV.1.42). Patañjali mentions *kuśa-kāśam* as names of grasses (II.4.12; I.475).

4. *Muñja* (III.1.117), *Saccharum munja.* Pāṇini refers to *muñja* grass being treated (*vipūya*) in water for its fibres. Its reeds were called *ishīkā* (VI.3.65).

5. *Naḍa* (Reed), IV.2.87, in such names as *naḍvān*; IV.2.88, *naḍvala*; IV 2.91, *naḍakīya*, denoting a place abounding in reeds.

6. *Śāli* (IV 2.88), grass from which *śādvala*, a grassy land.

7. *Vetasa* (IV.2.87), cane or *Calamus rotang*.

8. *Kattṛiṇa* (VI.3.103), explained by Amara as *saugandhika*, a fragrant grass, probably same as *sugandhitejana* of the Vedic literature (*Vedic Index*, II.453).

Grasses mentioned in the gaṇas.

1. *Vīraṇa*, *Andropagon muricatus*, also called *uśīra* 4 53; IV 2.80), a fragrant grass (*Kisārādi* group). The gathering of *vīraṇa* flowers was a favourite game in East India called *Vīraṇa-pushpa-prachāyikā*, celebrated in the month of Vaiśākha (April-May).

2. *Balvaja*, *Eleusine indica*, (IV. 2.80; IV.3.142).

3. *Darbha* (IV.3.142); also in the *Gavāśva* group II.4. 11, where it occurs in such compounds as *darbha-śaram.*

4. *Pūtīka* (II.4.11), a grass, also known in Vedic literature (*Vedic Index*, II. 11).

FLOWERS (*PUSHPA*, IV.1.64)—Pāṇini mentions *kumuda*, water-lily (IV.2.10, IV.2.87), and *pushkara*, lotus (V.2.135). The *Pushkarādi gaṇa*, also contains its other synonyms, *e. g. padma*, *utpala bisa*, *mṛiṇāla*. The *Harītakyādi-gaṇa* mentions *śephālikā* (*Nyctanthes Arbor Tritis*), a sweet-scented flower, which was known to Patañjali who refers to a cloth dyed with its colour, called *śaiphālika* (*Bhāshya*, V.3.55; II.413).

Pāṇini tells us that the flowering plants or creepers derived their names from the name of their flowering season (*kālāt...pushyat*, IV.3.43) on which the *Kāśikā* cites *vāsanti kundalatā*, i.e. the creeper *Jasminum multiflorm* flowering in the spring season,

HERBS (OSHADHI). The formation of the names of herbs is the subjeect of *sūtra* IV.1.64, *Pāka-karṇa-parṇa-pushpa-mūla-bāl-ottara-papāch chā*. Some herbs are cited in the four *antar-gaṇa sūtras* to the *Ajādi* group IV.1.4, which also occur as *vārttikas* of Kātyāyana, although Haradatta treats them as part of the *gaṇa* (*cf. Padamañjarī* proposing to correct *satprāk-kāṇḍa* as *sadach kāṇḍa* on the basis of the *vārttika*). Thus *triphalā*, the traid of Indian myrobalans and *amūlā*, *Methonica Superba* (*Vedic Index*, I. 31) appear to be old names. *Brāhmī*, a famous herb (*Herpestis Monnieria* Watt, *Dict.*, Vol. IV, p. 225), is known to Patañjali (*Bhāshya*, III. 233 on Pāṇini VI. 4. 171).

FRUITS (*PHALA*)—Pāṇini takes fruits as the produce of trees (cf. IV.3.163-167), but Kātyāyana and Patañjali take *phala* to include even grains as rice, barley, pulses, sesamum, etc., produced by the annual plants which wither away after ripening ((*phala-pāka-śushām upasamkhyānam*, II. 327). This agrees with Manu who defines *oshadhi as phalapākāntā* (1.46). Pāṇini refers to fruit-bearing trees (*phalegrahi*, III 2.26) and has made rules for denoting the fruits of various *vanaspatis* (*Phale luk* IV.3.163 etc.), stating that the linguistic form of the name of the fruit is generally the same as that of the tree.

Mango, *bilva*, and *jambu* are important fruit-bearing trees mentioned, and berries of *plaksha* and *harītakī* are also named (IV. 3. 164, 167). The *drākshā* vine, and its fruits occur in the *Gaṇa-pāṭha* (IV. 3. 167). Pāṇini's reference to *Kāpiśāyana* shows his acquaintance with the grapes and its wines from Afghanistan (IV. 2. 99). The word also occurs in the *Mālādi* and *Yavādi-gaṇas* (VI. 2. 88 ; VIII. 2. 9) and in a *Phiṭsūtra* (no. 57). Pomegranate (*dāḍima*) occurs in the

ardharchādi gaṇa (II. 4. 31), but the first definite mention of the fruit is found in Patañjali (*Bhāshya*, I. 38 and 217). Outside India, the fruit is carved on the ancient monuments of Persepolis, Assyria and Egypt, showing its pre-Pāṇinian antiquity.

PILUKUṆA—In *sūtra* V. 2. 24, Pāṇini mentions the suffix *kuṇa* from *Pīlu* (*Salvadora indica*) and other tree names to denote their fruits. The ending *kuṇa* in this sense is a peculiarity of the Punjabi dialect round about Shahpur district in north-west Punjab where *pīlukuṇa* denotes the ripe *pīlu* berries In Sanskrit literature the *kuṇa* ending is of rare usage and Pāṇini has taken here a word from the spoken dialect nearer home.

CH. IV, SECTION 3. FAUNA

CLASSIFICATION—Pāṇini classifies creation into animate (*prāṇin*, IV. 3. 135 ; 154 ; also *prāṇabhṛit*, V. 1. 129) and inanimate (*aprāṇin*, II. 4. 6 ; V. 4. 97 etc.), the two being also mentioned as *chittavat*, 'with mind' (V. 1. 89) and *achitta*, 'without mind' (IV. 2. 47). This becomes significant against the background of the Upanishadic thought where *prāṇa* (vitality) and *chitta* (mind) are considered as the two characteristics of life. The animate world is further subdivided into human (*manushya*, IV. 2. 134) and animal (*paśu*, III. 3. 69) kingdoms; and the latter again on the basis of their habits into domestic (*grāmya-paśu*, I. 2. 73) and wild (*āraṇya*, IV. 2. 129). Other modes of classification are also referred to, *viz.* according to size, as *kshudra jantus* (II. 4. 8), or their food as *kravyād*, the carnivorous animals (III. 2. 69). Pre-Pāṇinian attempts at classification are reflected in such words as *ubhayatodanta* and *anyatodanta*, *dvipād* and *chatushpād*, *ekaśapha* and *dviśapha* of Vedic literature (*Vedic Index*, I 510). *Mṛiga* is generally a wild beast in the *Ashṭādhyāyī* (IV. 3. 51 ; IV. 4. 35), but in *sūtra* II. 4. 12 it stands for the cervidae, such as *rurupṛishatam* in the *Bhāshya* signifying two species of deer. Birds are called *pakshī* (IV. 4. 35) and *śakuni* (II. 4. 12). Pāṇini mentions the following animals :

1. An elephant is called *hastin* (V. 2. 133), *nāga* and *kuñjara* (II. 1 62) ; a trumpeting elephant with prominent trunk was *śuṇḍāra* (V.3.88). A herd of elephants was called *hāstika* (IV 2.47). The height of an elephant constituted a measure as *dvihasti*, *trihasti* (V 2.38), as high as two or three elephants, words used with reference to the depth of a moat or the height of a rampart. Pāli *hatthin* also denotes the size of an elephant (*Milinda*, p. 312; Stede, *Pali Dict.*) The tusk of an elephant was called *danta* (V 2.113), used also as ivory; a tusker was *dantāvala*. Strength to kill or shoot

an elephant was a mark of valour, expressed by the term *hastighna* (III.2.54). A goad was *totra* (III.2.182).

Patañjali refers to the food for elephants as *hasti-vidhā* (*vārttika* II.1.36.3, Bhāshya, I.388).

2. Camel is called *ushṭra* (IV.3.157) and camel corps *aushṭraka* (IV.2.39). A young camel (*karabha*) restrained by a chain during infancy was known as *śriṅkhalaka* (*Bandhanam asya śriṅkhalaṁ karabhe,* V. 2.79). Pāṇini refers to camel-riders (*ushṭra-sādi,* VI 2.40), and to mixed corps of camels and mules (*ushṭra-vāmi*). It seems that the term *ushṭra-sādi* and *ushṭra vāmi* referred to the army units employed for quick transport.

Pāṇini mentions *aushṭraka* as the name of articles made from the parts (*vikārāvayava,* IV.3.157) of dead camels. Such articles were large and small sacks (*goṇī* and *goṇītarī,* V.3.90) made of camel hair, and leather jars of large and small size (*kutū* and *kutupa,* V.3.89), made of hides and intestinal integuments of camels (Watt, *Dict.* II.63-64).

3. *Aśva.* Horse and mare together were termed *aśva-vaḍava* in the masculine gender (II.4.27). Pāṇini mentions *Pārevaḍavā* (VI.2.42), a special breed of mares from across the Indus. Kauṭilya states that the best class of horses were imported from Kamboja, Sindhu, Bāhlīka and Sauvīra (*Arth.* II.30).

HARAṆA—A mare in heat is referred to as *aśvasyati* (VII. 1.51) and the charges paid for her covering as *haraṇa*. *Haraṇa* has a technical sense in the *sūtra Saptamī-hāriṇau-dharmye' haraṇe* (VI.2.65). The object of the rule is to regularise the formation of words denoting some customary (*dharma*) dues of which *haraṇa* was one. The *Kāśikā* cites *vāḍava-haraṇa* signifying a payment given to the owner of a sire for feeding him after covering the dame (*vaḍavāḥ-ayaṁ vāḍavaḥ, tasya bījanishekād uttarakālaṁ yad dīyate haraṇam iti taduchyate, Kāśikā*). Such dues in kind or cash, were fixed by custom (*dharmya*) as an obligatory

charge. The *Mahābhārata* mentions *haraṇa* in the wider sense of nuptial presents, both in cash and kind, given at the time of marriage; as for example those given by Krishṇa and the Yādavas to Arjuna marrying Subhadrā (*haraṇaṁ vai Subhadrāyā jñātideyaṁ*, Ādiparva (233.44). The example *vāḍava haraṇam* cited in the *Kāśikā* seems to be an old stock-illustration.

ĀŚVĪNA—(V.2.19). Pāṇini mentions it as the distance travelled by a horse in one day (*aśvasy-aikāhagamaḥ*). The *āśvīna* distance is mentioned in the *Atharvaveda* (VI.131.3) and the *Aitareya* and *Tāṇḍya Brāhmaṇas* (*Vedic Index*, I.70; cf. also Caland's note in the *Pañchaviṁśa Br.*, XXV.10.16). The exact distance is not stated, but seems to have exceeded five *yojanas* (25 miles), since the *Atharva* mentions it as coming after five *yojanas*. Kauṭilya states that horses of the first, second and third class drawing a chariot (*rathya*) travelled 6, 9 and 12 *yojanas* in one day (a *yojana* = about 5 miles), cavalry horses 5, 8 and 10 *yojanas* respectively (*Arth.*II.30). Patañjali mentions an average horse going four *yojanas* and a horse of higher mettle eight *yojanas* in one day (*Bhāshya*, V.3.55; II 413). Thus the *āśvīna* distance travelled by a horse in one day ranged from twenty-five to sixty miles according to the class of horse and the nature of work. As against Pāṇini's *āśvīna* (*aśva khañ*), the form in the *Atharvaveda* is *āśvina*, derived from *āśvin*, a horseman. Patañjali describes *śoṇa*, *hema* and *karka* (red, dun and white) as colours of horses (I.251).

4. *Khara*, mentioned in connection with stables for asses, *khara-śāla* (IV.3.35).

5. *Aja* (Goat, IV.1 4; IV.2.39). A herd of goats was called *ājaka*. Goats and sheep together were called *ajāvi* and *ojaiḍa* (cf. *gaṇa Tishṭhadgu*). *Jābāla* denoted a goatherd, and *mahājābāla* (VI.2.38) one who was the owner of a big sheep-run. *Jābāla* does not seem to be a word of Sanskrit origin. It may be traced to a Hebrew word *yobel* or *jobil*, signifying ram's horn, whence 'jubilee'. Pāṇini shows

acquaintance with some Semitic and Iranian words in use across the frontier (*e.g. hailihila*, VI.2.38; Arabic *halahila* 'deadly poison', Steingass, Persian-English Dictionary, p. 1506, whence later Sanskrit *halāhala* or *hālahala*; similarly *karsha*, berry).

6. *Avi* (Sheep, V.1.8.) was also termed *avika* (V.4.28). A flock of rams is referred to as *aurabharaka* (IV.2.39). Kātyāyana mentions the dialectical forms *avidūsa*, *avimarīsa*, *avisodha*, as words for goat's milk (*avi-dugdha*, IV.2.36. II.278).

7. *Mṛiga* has a two-fold meaning in the *Ashṭādhyāyī viz.* (1) wild beast (IV.3.51) in general and (2) deer (II.4.12). Pāṇini mentions two species of deer, *riśya* a whitefooted antelope (IV.2.80) and *nyaṅku*, a gazelle or small deer (VII.3.53), both being Vedic words (*Vedic Index*, I.115, 463). The female deer was called *eṇī* (IV.3.159) Patañjali refers to *rohit* as the female of the *riśya* deer (1.248).

Amongst carnivorous animal (*kravyād*, III.2.69) are mentioned *siṁha* (VI.2.72), *vyāghra* (II.1.56), *vṛika* (V.4.41), *kroshṭu* (jackal, VII.1.95), *biḍāla* (VI.2.72), and *śvā* (IV.4.11). Domestic dogs bred in royal kennels were called *kauleyaka* (IV.2.96; cf. *Kukkura Jāt.* 1.22, *ye kukkurā rājakulamhi baddhā*; also *Rāmāyaṇa*, II.70.20).

Of birds (*śakuni*, II.4.12, *pakshī*, IV.435 or *tiryach*, (III.4.60), individual names are *chaṭakā* (sparrow, IV.1.128), *mayūra* (peacock, II.1.72, also *kalāpin*, IV.3.48), *kukkuṭa* cock, IV.4.46), *dhvāṅksha* (crow, II.1.42), and *śyena* (hawk, VI.3.71). *Śuka* (parrot) is included by Patañjali in the *Khaṇḍikādi gaṇa* (IV.2.45). Pāṇini also refers to pecking birds as *vishkira* (VI.1.150), amongst which Charaka counts the peacock and the cock (*Sūtrasthāna*, XXVII.46).

Of the *kshudrajantus* (II.4.8), animals upto the size of a mungoose according to Patañjali, were *nakula* (mungoose, VI.3.75), *godhā* (biglizard, IV.1.129-130), *ahi* (snake, IV.3.56), *kshudrā bhramara*, *vaṭara* (kinds of bees, IV.3.119) and *vaṭi* (an ant, V.2.139).

Amongst acquatic animals mention is made of *nakra* (alligator, VI.3.75), *varshābhū* (frog, VI.4.84), and *matsya* (fish, IV.4.35) and *vaisāriṇa*, a species of fish (V.4.16).

FEEDING AND STOCK—A drove of cattle was called *samaja*, and a drive to the pasture *udaja* (III 3.69). Herds of domestic cattle (*grāmyapaśu saṅgha*) such as cows and bulls grazing together (*saṅghībhūtāḥ*) were called *gāvaḥ*, after the female of the species; similarly *mahishyaḥ* (male and female buffaloes), and *ajāḥ* (he- and she-goats). But when their young ones (*ataruṇa*), as calves and heifers, formed a mingled herd, the masculine form *vatsāḥ* signified both. This idiom still holds good in such Hindi words as *gāen* and *bachhaḍe*.

The age of an animal was expressed in terms of the number of its teeth (V.4.141) and the growth of horns (VI.2.1) and hump (V.4.146); *e.g.* a calf of tender age was spoken of as *dvidan* (with two teeth), *asaṁjāta-kakut* (with out growth of hump), *aṅgula-śriṅga* (with horns an *aṅgula* long); and one of mature growth as *chaturdan*, *shoḍan*, *pūrṇakakut udgata śriṅga*, *etc.*

Pastures for cattle were called *gochara* (III.3.119), in which herds grazed and moved from one part to another as fodder was eaten up. An area once used for grazing and later abandoned was called *gaushṭhīna* (*bhutapūrva goshṭha*, V.2.18); similarly a woody pasture with its fodder consumed was called *āśitaṁgavīna araṇya* (V.4.7). This indicates a system of shifting cowpens and pastures both in village settlements and in forest areas. Straw (*busa* and *kaḍaṅkara*) was the fodder for livestock, which feeding on it was called *kaḍaṅkarīya* (V.1.69; *cf.* Hindi *ḍaṅgar*). Watering places for cattle are referred to as *nipāna* and *āhāva* (III.3.74), probably attached to a well as even today.

Pāṇini refers to the cattle craving for salt as *lavaṇasyati* (VII.1.51). Kauṭilya prescribes salt to be given to cattle as part of their food.

The cow and the bull were together called *dhenv-anaḍuha* (V.4.77). Prosperity in cows and calves was blessed by the expression '*Svasti bhavate sagave savatsāya* (Kātyāyana on VI.3.83). A cow-pen was *vraja*, and cow-stall *gośāla* (IV.3.35) and *goshṭha* (VIII.3.97). *Goshpada* was the place for the cows to roam (VI.1.145, *gobhiḥ-sevito deśaḥ, Kāśikā*). Dense forests impenetrable to cows were *agoshpada* (VI.1.145).

Gotrā in Pāṇini 'an assemblage of cows' (IV 2.51), recalls the earlier Vedic word *gotra*, as the common shed for cows belonging to several families. Pāṇini mentions two new synonyms of *gotrā*, *viz. gavyā* (IV.2.50) and *ādhenava* (IV.2.47).

The cowherds were called *gopāla*; special officers in charge of royal cattle were called *tantipāla* (VI.2.78). The son of a cowherd attaining the age when he was fit to take the cows out for grazing was called *anugavīna* (V. 2. 15). This was analogous to the term *kavachahara* for a Kshattriya boy, marking the age of maturity.

LIFE-STORY OF A COW—The different stages in the life-cycle of a cow were expressed by suitable terms. The heifer attaining puberty (*kālyā prajane*) was termed *upasaryā* (III.1.104), and her first mating *upasara* (III.3.71). The *Mahābhārata* refers to a cow attaining full youth at the age of three (*māheyī trihāyanī*, Virāṭa, 16.6, Poona, ed.). If she miscarried she was called *vehat* (II.1.65). On the eve of delivery she was called *adyaśvīnā*, 'calving today or tomorrow' (V·2.13), a new term for the Vedic *pravayyā* (VI.1.83); and after calving *grishṭi* (II. 1. 65). Pāṇini also refers to *mahāgrishṭi* (VI.2.38), a better cow whose milking period continues up to the next calving, corresponding to Vedic *naityikī* (= *nityavatsā, naichikī*, Hemachandra, *Abhidhāna-chintāmaṇi*, IV. 336). *Dhenu* was a cow in milk (II.1.65), also called *astikshīrā* by *Kātyāyana* (II.2.24.21). After about six months of her calving she became *bashkayaṇī* (II.1.65). A cow calving every year was marked out

from the rest as *samāṁsamīnā* (V.2.12). Patañjali speaks of that cow as excellent (*gotarā*) which not only calves every year but gives birth to a heifer (*strīvatsā*, II.413). A cow pledged to the creditor to pay off the debt from her milk was called *dhenushyā* (IV.4.89).

BULL—A very young calf was *śakṛit-kari* (III 2,24), corresponding to Vedic *atriṇāda* (*Br. Up.* 1. 5. 2). Next it was called *vatsa* and a group of them *vātsaka* (IV.2.39). When the cows went out for grazing, the calves were confined to special enclosures called *vatsaśālā* (IV.3.36).

The wooden club hanging from the neck of a calf was called *prāsaṅga*, (cf. Hindi *pasaṅgā*) and a calf so restrained while out grazing was *prāsaṅgya* (IV.4.76). A calf of two years was called *dityavāḥ* (VII.3.1; *Vedic Index*, I.359). A calf above the ordinary and selected to grow as a stud bull was called *ārshabhya* ('good for becoming a bull,' V.1.14). As such, he was termed *jātoksha*, 'growing up as a bull' (V.4.77), and was not castrated. Calves intended to grow as stud bulls are given special food and care. A young (*taruṇa*) bull was (*ukshā*), more developed *ukshatara* (V.3.91), when fully grown up *mahoksha* (V.4.77), and declining in age *vṛiddhoksha* (V.4.77) or *ṛishabhatara* (V.3.91).

Similarly a draught bull was *vatsa* in the first stage, *damya* when broken, and *balivarda* as a bullock (Pat. on I. 1. 1, I. 42).

At the age of two and a half years the young bull gets his first pair of permanent teeth. This age was expressed by the word *dvidan*. He became *chatur-dan*, 'with four teeth,' at the age of three (V.4.141, *Kāśikā*).[1] Then he was given

1. Teething of young bulls and cows :

Age	*Number of teeth*
2—2½ years	2 teeth.
3 ,,	4 ,,
3½ ,,	6 ,,
4 ,,	8 ,,

The question of the number of teeth has its practical importance in judging

a nose-string (*nātha-hari*, III. 2.25) and was broken (*damya*) and castrated.

The draught bulls were classified according to their work, e g. *rathya*, drawing a chariot (IV.4.76), *yugya*, a yoke (IV.4.76), *dhurya* and *dhaureya*, a cart (IV.4.77), *śākaṭa* (IV.4.80) a cart-load, and *hālika* or *sairika*, the plough (IV.4. 81). An ox accustomed to be yoken both on right and left of the yoke was called *sarva-dhurīṇa* (IV.4.78), and to one side only, *ekadhurīṇa*, the latter being of less worth.

BREEDS—Pāṇini mentions the famous *Sālvaka* breed of bulls reared in the Sālva country (IV.2.136, *Goyavāgvośoha*). He refers to Sālva as a large confederacy of several member-states, whose number is stated to be six in the *Kāśikā* (IV. 1.173). Patañjali mentions Ajamīḍha, Ajakranda and Bodha amongst them (IV.1.170, II.269). The *Mahābhārata* names Mrittikāvatī as a Sālva capital, perhaps Mairta in Marwar. The location of Sālvas is further suggested by Ptolemy's Bolingai living on the western slope of the Aravallis, who appear to be the Bhūliṅgas, one of the six Sālvas. (McCrindle's *Ptolemy*, p. 163). The *Gopatha* couples the Sālvas with the Matsyas. Thus the Sālva *janapada* comprised the vast territory extending from Alwar to Bikaner or north Rajputana, and the Sālvaka breed of Pāṇini seems to be the same as the celebrated Nagauri bulls reared in the jungle-covered tracts of Nāgaur in the Jodhpur State (Hunter, *Imp. Gazetteer*, X.159) and those of Bikaner.

Patañjali adds the name of the Vāhīka breed of bulls (1.354), aud *Kāśikā* two others, *viz* of Kachchha (a counter-

the age of an animal at the time of sale and purchase. The prospective buyer invariably examines the teeth to judge the age. The growth of the horns is likewise a sign of age as referred to by Pāṇini in VI. 2. 115 (*Śriṅgam-avasthāyāṁ cha*). The stages of maturity were also expressed in terms of the development of the hump, e.g. the terms *akakut*, *pūrṇakakut* and *unnatakakut* denoted the three stages of infancy, youth and maturity (V.4.146, cf. *Kāśikā*).

example to Pāṇini IV.2.134), and of the Raṅku country (IV.2.100). The former (*Kāchha gau*) reared in Kathiawar is considered by Watt as the finest in north-west India, its bullocks as powerful draught animals, and cows as excellent milkers (Watt, *Dict.*, V.669). The bull bred in Raṅku was called *Rāṅkava* and *Rāṅkavāyaṇa*.

BRANDING OF COWS (LAKSHAṆA). *Lakshaṇa* denoted the marks branded on the body, generally ears, of cattle to distinguish ownership (*paśunāṁ svāmi· viśesha sambandha-jñāpanārtham, Kāśikā* VI.3.115). Pāṇini refers to the branding of cows in two *sūtras* :

(1) *Karṇo varṇa-lakshaṇāt* (VI.2.112) ;

(2) *Karṇe lakshaṇasya-āvisht-ashṭa-pañcha-maṇi-bhinna-chhinna-chhidra-sruva-svastikasya* (VI.3.115).

The first rule prescribes initial acute accent in such words as *dātrākarṇa*, 'whose ears are marked with a sickle.' The second *sūtra* dealing with vowel elongation incidentally gives a list of some marks used to indicate different owners, e.g. *vishṭa, ashṭa, pañcha, maṇi, bhinna, chhinna, chhidra, sruva* and *svastika*.

The branding of cows was known in the Vedic period. The *Atharvaveda* refers to it as *lakshma* and mentions the *mithuna* mark (VI.141.2-3; XII.4.6). The *Maitrāyaṇī Saṁhitā* (IV 2.9), *Mānava Śrauta Sūtra* (IX.5.1.3), and *Gonāmika Pariśishṭa* of the *Vārāha Śrauta Sūtra* give details of this ancient cattle rite and add a few more marks (*Journal of Vedic Studies*, Lahore, Jan. 1934, pp. 16 ff.). The *Mahābhārata* also refers to a census of the royal cattle (*smārṇa*, Vanaparva, Ghoshayātrā, 239.4) by branding them (*aṅka laksha*, Vanaparva 240.4). The *Arthaśāstra* prescribes it for the Superintendent of Cows 'to register the branded marks, natural marks, colour and the spread of the horns of each of the cattle' as part of his duties relating to the cow-pen (*vraja-paryagra, Arth.* II. 29, p. 129). The Edicts of Aśoka emphatically disallow the branding of horses and bullocks

on certain specified days (Pillar Edict, V).[1] Patañjali refers to the mark (*liṅga*) being branded on the ear or the rump of the animal (*goḥ sakthani karaṇe vā kṛitaṁ liṅgam*, 1.3.62; I. 289); the mark being also called *aṅkı* (*aṅkitā gāva ityuchyate' nyebhyo gobhyaḥ prakāśyınte*, VIII. 2.48; III. 408).

NAMES OF MARKS—Pāṇini mentions nine marks (VI. 3.115); to which other names may be added from the *Maitrāyaṇī Saṁhitā*, *Ṛik-Tantra*[2] and *Kāśikā*, as shown below. *Vishṭakarṇī*, a mark in Pāṇini's list, is ın the *Maitrāyaṇī Saṁhitā* a maık of the cows of Agastya, those of Jamadagni having a lute and of Vasishṭha a stake (*Vedic Index*, I.46). The *ashṭa karṇī* of Pāṇini occurs in the *Ṛigvedı* (X. 62.7) where Grassmann translates 'having the sign for (the number) 8 marked on the ear.' (*Vedic Index*, I. 46). The use of the numerals 5 and 8 as marks put on the ears of cattle shows that writing was popularly known (Goldstucker, *Pāṇini, His Place in Sanskrit Literature*, p, 44).

Some of these marks (*lakshaṇa*) can be identified amongst the symbols stamped on punch-marked coins, e.g., [1]*sruva*, [2]*svastika*, [3]*aṅkuśa*, [4]*kuṇḍala*, [5]*plīhā* [6]*bāṇa*, [7]*mithuna*.[3]



1 2 3 4 5 6 7

1. See also A. S. B. Memoir, *Animals in the Inscription of Piyadasi*, p. 373, referring to it as an old custom described in the *sūtra* literature; *Pāraskara*, iii. 10; *Sāṅkhāyana* iii. 10; *Āśvalāyana Gr. Pariśishta*, iii.-8. Also *Drāhyāyaṇa Grihyasūtra*, III. 1.46 (*bhuvana* mark); *Khādira Grihyasūtra*, III. 1 46.

2. *Karṇe plīh-aṅkuśa-kuṇḍal-aparishta-ādhya-akshata-bāṇānām*, *Ṛiktantra sūtra* 217.

3. Allan, *Coins of Ancient India*, Index of Punch-marked Symbols, Index IV.

List of Marks

SOURCE	NAME OF MARK	MEANING
Pāṇini (VI.3.115).	1. Vishṭha (-karṇi)	Uncertain; also in *Mait-Saṁ.*
	2. Ashṭa	Numeral 8 marked on the ear.
	3. Pañcha	Numeral 5.
	4. Maṇi	Jewel.
	5. Bhinna	Cleft ears.
	6. Chhinna	Clipped ears.
	7. Chhidra	Bored ears; also *Mait-Saṁ.*
	8. Sruva	Ladle
	9. Svastika	Svastika sign.
Maitrāyaṇī Saṁhitā (IV. 2.9).	10. Sthūṇā	Stake (also Vanaparva, for stake mark 163-32 on Arjuna's arrow).
	11. Karkarī	Lute.
	12. Puchhindyā	Perhaps the tail.
	13. Dātra	Sickle; also in *Kāśikā.*
Atharva-veda (VI. 141.2).	14. Mithuna	Man and Woman.
Ṛiktantra (*sūtra* 217).	15. Plīhā	Spleen.
	16. Aṅkuśa	Goad.
	17. Kuṇḍala	Circle.
	18. Uparishṭa	Twitched backwards.
	19. Adhi	Ears twitched inside.
	20. Akshata	Ears intact.
	21. Bāṇa	Arrow.
	22. Śaṅku	Spike.
Kāśikā (VI. 2.112 ; (VI. 3.115).	23. Dviguṇa	Flexed twice.
	24. Triguṇa	Flexed thrice.
	25. Dvyaṅgula	Two finger-marks.
	26. Aṅgula	A single finger-mark.

CH. IV, SECTION 4. ARTS AND CRAFTS

MEANING OF ŚILPA—Pāṇini mentions *śilpa* as a general word denoting both fine arts, like dance and music (III.2.55), and crafts (VI.2.62). Dancers (*nartaka*), musicians (*gāyana*) and instrumentalists (*vādaka*) are all called *śilpins* (III.1.146 ; IV.4.56). This meaning agrees with that in Buddhist literature where the *sippas* include the work of craftsmen and even acrobats. The *Kaushītaki Brāhmaṇa* also regards dance and song as *śilpa* (XXIX.5). The *Arthaśāstra* considers proficiency in military science as a *śilpa*, trained soldiers being referred to as *śilpavantaḥ pādātāḥ* (*Arth.* V.3, p. 248), a king's inspection of military parade as *śilpa-darśana*.

Pāṇini refers to a worker in handicrafts as *kāri* (IV.1. 152), which the *Kāśikā* explains as *kāru*, such as weavers, (*kāri-śabdaḥ kārūṇāṁ tantuvāyādīnāṁ vāchakaḥ*). *Kāri* is absent in the *Arthaśāstra*, but *kāru* is mentioned along with the *śilpins* (*kāru-śilpinaḥ*, *Arth.* II.36, p. 144). Kātyāyana uses the word *kāri* to denote an artisan (*vārttika* on IV. 1.159).

CLASSES OF ARTISANS—Pāṇini mentions the village artisans as *grāmaśilpins* (VI.2.62), *e.g.* the village carpenter (*grāma-takshā*, V.4.95), potter and barber. Patañjali says that in each village there were at least five artisans (*tatra chāvarataḥ pañchakāruki bhavati*, I.1.48 ; I.118), amongst whom Nāgeśa includes the potter, black-smith, carpenter (*vardhaki*), barber and washerman.

Pāṇini mentions the skilled artisans as *rāja-śilpins* (*Rājā cha praśaṁsāyām*, VI.2.63), e.g. *rāja-nāpita*, *rāja-kulāla*. Perhaps these enjoyed the patronage of kings from whom they were so named.

Pāṇini condemns vile artisans as *pāpa-śilpī* (VI.2.68). The *grāma-taksha* (V.4.95) was a carpenter who went to work on daily wages to the house of his clients in the village. On the other hand, the *kauṭa-taksha* was one who worked on his own account in his own workshop (*kuṭī*) and was thus of a higher status. This distinction still obtains in rural economy (cf. Aurel Stein, *Hatim's Tales*, p. 41). The carpenter working at his own house is paid for his work a share of the agriculture produce by his customers.

NAMES OF ŚILPAS—Of those devoted to the art of music Pāṇini mentions *gāthaka* (III.1.146), *gāyana*, (III.1. 147), *māḍḍukika* (IV.4.56), *jhārjharika* (IV.4.56), *pāṇigha* (III.2.55), *tāḍagha* (III.2.55), and *nartaka* (III.1.145, with Kātyāyana's *vārttika*). Name of other craftsmen in Pāṇini are given below :

(1) *KULĀLA* (IV.3.118) potter; also *kumbhakāra* (in a *gaṇa*). Pottery or earthenware made by him was called *kaulālaka*.

(2) *TAKSHĀ* (V.4.95), carpenter. Pāṇini mentions *tanūkaraṇa* or hewing as the chief part of the carpenter's work (cf.III.1.76). Amongst his tools reference is made to *udghana* (III.3.80), the bench on which he works. The village carpenter played an important part in rural economy, the various agricultural implements mentioned above were made by him.

(3) *DHANUSHKARA* (III.2.21), a maker of bows, which were made of the wood of *Tāla* tree (IV.3.152) and were of several sizes (cf. *maheṣvāsa*, a bow of 6ft. ht., VI.2.38).

(4) *RAJAKA* (III.1.145 as interpreted by Kātyāyana). Pāṇini refers to several dyes then known, the cloth dyed being named after the dye (*Tena raktaṁ rāgāt*, IV.2.1). *Rāga* signified both sentiment and dye-stuff (VI.4.26,27). Cloth dyed with red colour was known as *lohitaka* (V.4.32); and with black colour *kālaka* (V.4.33). *Lākshā* (IV.2.2, also called *jatu*, IV.3.138) was a popular commercial dye

produced in India from very early times. Lacquer work was called *jātusha*. Madder (*manjishṭhā*, VIII.3.97), indigo (*nīlī*, IV. 1. 42), and orpiment (*rochanā*, IV. 2. 2.) were also known as dyes. A garment dyed in indigo was known as *nīlā* (IV. 1. 42). According to Kātyāyana *śakala* (powdered potsherds) and *kardama* (black mud from the bottom of a pool) also served as dyeing stuff, probably for the first process of bleaching of coarser fabrics, thus called *śākalika* and *kārdamika* (*Bhāshya*, IV, 2. 2 ; II. 271). *Haridrā*, and *mahārajana* are mentioned by Kātyāyan as dyestuffs(IV. 2. 2, *vārttika*).

(5) *MINER*—The miner (*khanaka*) is referred to by Kātyāyana on III. 1. 145. Mining revenue was called *ākarika* (cf. *Kāśikā* on IV.3.75). Pāṇini refers to seams as *prastāra* (III. 3.32), on which the *Kāśikā* cites *maṇi-prastāra*, the vein of gems. The same word occurs as *prastara* in Kauṭilya. Traders dealing in the *prastāra* minerals were called *prāstārika* (IV. 4. 72).

Amongst precious metals mention is made of gold (*hiraṇya* or *jātarūpa*, nuggets, IV.3 153 ; cf. also Vedic *upachāyya-priḍa*, III.1.123) and silver (*rajata*, IV.3.154). Iron (*ayas*, V.4 94), bell-metal (*kāṁsya*, IV.3.168) and tin (*trapu*, IV. 3.138) are also mentioned. Pāṇini takes *ayas* both as a genus (*jāti*) and a species (*saṁjñā*), illustrated by the *Kāśikā* as *kālāyasa* (iron) and *lohitāyasa* (copper) respectively. *Sīsa* and *loha* are mentioned in a *gaṇa* (IV. 3. 154).

GEMS—*Lohitaka* (ruby) and *sasyaka* (emerald) are mentioned (V.4.30 ; V.2.68) as gems (*maṇi*). Both are referred to in the Arthaśāstra (II.11, p.77), the latter in the *Kalpasūtra* as a precious gem (*sāsaga*, III.13). The mines of *vaidūrya* (cat's eye) were in the mount *Vālavāya*, but the gem was cut in *Vidūra* (*Bhāshya*, IV.3.84 ; II.313) which gave it its name. *Vālavāya* mountain is cited on *sūtra* VI.2.77 in the *Kāśikā* as an old example.

(6) *WEAVER*—The word *tantuvāya* is implied in the *sūtra*, *Śilpini chākriṇaḥ* (VI.2.76). The place where the weaver

plied his loom is referred to as *āvāya* (*āvayanti asmin*, III.3. 122), the loom as *tantra* (V.2 70), and the shuttle as *pravāṇi* (V.4.160; *tantuvāya-śalākā, Kāśikā*). The process of weaving comprised stretching the warp and then weaving threads across it with a shuttle (cf. *Bhāshya, āstīrṇaṁ tantram, protaṁ tantram*, I.338). Pāṇini refers to a piece of cloth or blanket fresh from the loom as *tantraka* (*Tantrād achirāpahṛite*, V.2.70), meaning a new (*navaka*) unbleached piece; and also *nishpravāṇi*, 'separated from the shuttle as a mark of the weaving being completed' (V. 4. 160, *apanīta-śalākaḥ samāptavānaḥ, Kāśikā*).

Pāṇini refers to cloth and garments as *āchchhādana*. Patañjali names *Kāśika* as the famous cloth woven in Banaras; *Mādhyamika* as woven in Madhymikā or Chittor; and *śāṭakas* woven in Mathurā (*Bhāshya*, V.3.55; II.413; I.19). (7) *BLANKET-MAKERS* (*kambala kāraka*, cf. Vālmīki, II. 83 14). Woollen goods were called *aurṇa* and *aurṇaka* (IV.3. 158). Pāṇini mentions several kinds of blankets, *viz.*, (1) *prāvāra* (III; 3. 54), (2) *pāṇḍu-kambala* (IV. 2. 11), and (3) *paṇyakambala* (VI. 2. 42; to which Kātyāyana adds *varṇaka* (VII.3.45; cf. *Kauṭilya*, II.11, p. 80), and the *Kāśikā rāṅkava* (IV. 2. 100, a counter-example to the *sūtra*). *Paṇyakambala* (VI. 2. 42) was a blanket of commercial variety of standard length and breath, being woven with a fixed measure of wool called *kambalya* by Pāṇini (IV. 1. 22, *Kambalāch cha saṁjñāyām*), equal to 100 *palas* or 5 seers in weight (*Kāśikā*). *Prāvāra* was a special variety of light woollen covering woven on the loom (cf. *tantraka prāvāra*, V. 2,70)

PĀṆḌUKAMBALA—This blanket was used for the mounting of chariots, which were called *pāṇḍukamblī* after it (IV.2.11). The *Kāśikā* explains *pāṇḍukambala* as a high class coloured rug used for royal seats (*rājāstaraṇasya varṇakambalasya vāchakaḥ*). The Jātakas mention it as the stuff for covering the throne of Indra (II. 188; III. 53; IV. 8), and the back of a royal elephant (*Vessantara Jātaka*, VI.490), and also add that it was of a bright red colour woven in Gandhāra

(*Indagopakavaṇṇābhā Gandhārā paṁḍukambalā*, *Ves. Jāt.*, VI.500). It is referred to as *Pāṇḍva* in the ŚB (5.3.5.21) and as *Pāṇḍvāvika* shining like *Indragopa* in B.U. (2. 3. 6). Gandhāra, the home of wool in Vedic times, continued later on as a centre of wool-weaving industry. The *pāṁḍukambala* may be identified with the blankets still woven in the Swat valley, which have beautiful borders of scarlet colour.

Sir Aurel Stein during his tours of the Upper Swat valley found blanket weaving as an ancient craft there: 'One of the crafts is represented by those heavy and gaily but tastefully coloured woollen blankets that the North-West of India knows as 'Swātī *Kambals*' or rugs. They are all brought from Churrai and are mostly made by the womenfolk in the side valley of Chihil-dara which descends to that place from the high snowy range towards Kāna and Duber on the east. To a lesser extent they are woven also in other side valleys of Torwal. That this local industry is as ancient as the Darad race that retains its hold there is proved by a passage of *Mahāvāṇija Jātaka* which the great French Indologist M. Sylvain Lévi, quotes in his comments on that curious Buddhist Sanskrit text published by him under the title of 'Le catalogue géographique des Yakṣa dans la Mahāmāyūrī.' The Jātaka passage referring to commodities of great value mentions also 'the fabric of Kāśī' or Benares, and the *kambala*, of *Uḍḍiyāna*, *Kāsikāni cha vatthāni Uḍḍiyāne cha kambale* (IV 352). There can be no doubt about M. Sylvain Lévi rightly reconizing *Uḍḍiyāna*, the true ancient name of Swat, in that of the locality here mentioned...Indian literature can scarcely contain any earlier testimony to the antiquity of still flourishing local industry than this Jātaka passage. Unfortunately though the ancient skill in weaving and the use of traditional patterns still survive, the introduction of aniline dyes has here, as elsewhere in the East, brought about a sad and rapid decline in the harmonious blending of colours. Rugs produced with the fine old vegetable dyes, such as were still obtain-

able at Peshawar some thirty years ago, could now no longer be found for me even in the remote tract where this manufacture has had its home for so many centuries.' (Sir Aurel Stein, *An Archl. Tour in Upper Swat and Adjacent Hill Tracts*, *A.S.M.*, No. 42, p.63). In my visit to Peshawar in 1940 I also purchased a Swati blanket brilliant red borders of attractive design, recalling the Jātaka description *indagopaka-vaṇṇābhā*. *Uḍḍiyāna* is known to Kātyāyana as Urdi and Aurddāyanī (*Vārttika* on IV.2.99).

(8) *LEATHER-WORKERS*—Articles made of leather (V.1. 15, *Charmaṇo'ñ*) are mentioned, e.g., *naddhrī*, strap (III 2 (182) and *vardhra*, leather thong (IV.3.149) (called *naddhī*, *baddhī* in Hindi); sometimes *varatrā*, strong rope was also made of leathher (*Kāśikā* on V.1.15). Pāṇini refers to skinning as *tvachayati* (III.1.25). An object entirely made of leather such as a pair of shoes was called *sarva charmīṇa*, which was a mark of its superior quality (*sarva-charmaṇaḥ kritah*, V.2.5) as explained by the *Kāśikā* Pāṇini refers to the custom of manufacturing shoes to the order of a client as per measurement of his foot (*anupadaṁ baddhā*), such a pair being called *anupadīnā* (V 2.9.). Even now such articles are regarded as of better quality than those purchased direct from shop.

(9) *BLACKSMITH* (*KARMĀRA*)—Of his tools mention is made of bellows (*bhastrā*, VII 3.47), sledge-hammer (*ayoghana*, III 3.82), axe (*drughana*, III.3.82), tongs (*kuṭilikā*, IV. 4.18), from which the smith himself was known as *kauṭilika*. He also manufactured iron plough-shares (*ayovikāra kuśī*, IV. 1.42).

(10) *GOLDSMITH* (*SUVARṆAKĀRA*)—Besides reference to gold and silver coins, Pāṇini mentions some ornaments, as ear-rings (*kārṇikā*), frontlets (*lalāṭikā*, IV.3.65), torque (*graiveyaka*, IV.2.96) and finger-rings (*aṅgulīyaka*, IV. 3.62). The phrase *nishṭapati suvarṇam*, 'he heats the gold in the fire only once,' (*Nisastaptāvanāsevane*, VIII.3.102) belongs

to the goldsmith's vocabulary and needs to be explained. The village goldsmith seated before his miniature cupola, has to deal with three kinds of orders. Firstly, new gold or silver in the shape of bar or ingot is brought to him to make ornaments. Secondly, old ornaments are brought in order to be melted and shaped into new forms. In these two cases he subjects gold to repeated heating and expands it by beating, for which the expression is *nistapati suvarṇam.* In the third case old ornaments are brought to him in order to be repolished or brightened by heating to look like new ones. For this the ornament is heated only once (*anāsevane*) and either rubbed or immersed in a solution to be made brighter. This operation was expressed by the cerebralised form *nishṭapati* (*suvarṇaṁ suvarṇakāraḥ*).

Pāṇini also mentions *ākarshika*, one skilled (*kuśaala*) in testing gold on the touch-stone (*ākarsha*, V.2.64). The term *ākarshika* (IV.49) was also applied to a person going round with a touch-stone and testing gold (*ākarsha iti suvarṇa-parīkshārtho nikshopalaḥ*, *Kāśikā*).

(II) *LIFTERS*—For scaffolding and lifting a large number of intricate knots and binding devices were being used. Pāṇini refers to them as *bandhas* (*Saṁjñāyām*, III.4.42, read with *Adhikaraṇe bandhaḥ*, III.4.41), on which the *Kāśikā* cites some old terms: (1) *krauñcha-bandha*, 'heron-knot', (2) *mayūrikā-bandha*, 'peafowl-knot', (3) *aṭṭālikā-bandha* 'tower-knot' (*bandha-viśeshāṇāṁ nāmadheyāni*). The *Arthaśāstra* adds *vṛiśchikā-bandha*, 'scorpion-knot' (*Arth.* IV.8, p. 221).

CH. IV, SECTION 5. LABOUR AND WAGES

SKILLED AND UNSKILIED LABOUR—Pāṇini refers to unskilled labourers engaged in hard manual work as *karmakara* (III. 2. 22) and their wages as *bhṛiti* (*karmaṇi bhṛitau*, III. 2. 22). He has a special expression for the employment of hired labour, *viz.*, *karmakarān upanayate* I. 3. 36).

Skilled workmen were called *śilpins* and their wages *vetana* (*śilpino nāma syabhṛityartham eva pravartante, vetanaṁ cha lapsyāmahe, Bhāshya* III. 1. 26. 14; II.36). Pāṇini mentions a wage-earner as *vaitanika* 'earning livelihood by means of wages (*Vetanādibhyo jīvati*, IV. 4. 12). In the *Arthaśāstra*, *vetana* includes both wages paid to artisans (*Arth.* II.23, p.114) and salaries paid to government servants (*ibid*, V. 3, p. 248).

WAGES—Both agricultural labour and skilled artisans worked to earn their livelihood (*jīvikārtha*, VI.2.73) through either wages, or as food received. The system of receiving a fixed payment in return for stipulated services rendered was called *parikrayaṇa* (I. 4. 44, *niyatakālaṁ vetanādinā svīkaraṇam, Kāśikā*), the employer *parikretā* and the man employed *parikrīta*.

A hired workman was named after (1) the period for which he was engaged, e. g. *māsika* (V. 1. 80, *Tam-adhīshto bhṛito bhūto bhāvī*), and (2) the amount of wages fixed to be paid, e.g., *pañchaka* (V.1.56). A month was the unit of time for calculating wages, as seen in the examples to *sūtra* V.1.80, *viz. karmakaraḥ māsikaḥ māsaṁ bhṛitaḥ*. This is also testified to by Kātyāyana's *vārttika* on V.4.116 (*māsād bhṛiti-pratyaya-pūrvapadāt-ṭhajvidhiḥ*) read along with *sūtra* V. 1, 56.

In his comments on the above *vārttika* Patañjali hints at the scale of monthly wages of labourers in his time, e.g. *pañchaka-māsikaḥ, shaṭka māsikaḥ daśaka-māsikaḥ*, i.e., a workman receiving five, six or ten (silver *kārshāpaṇas*) per month. Again, he mentions a labourer working for one *pādika* coin (one-fourth of a *kārshāpaṇa*) a day, *i. e.*, seven and a half *kārshāpaṇas* per month (*karmakarāḥ kurvanti pādikam aharlapsyāmhe, Bhāshya*, I. 3.72 ; I. 293). Kauṭilya directs that a *paṇa* and a quarter per month be paid to agricultural labour supplemented with food according to work done (*Arth.* II. 24, p. 118). He states that wages in cash were convertible into kind at the rate of 60 *paṇas* per *āḍhaka* (*Arth.* V. 3, p. 249). In Patañjali's time also food with clothing was given to *dāsas* and *karmakaras* (*yadetad-dāsa-karmakaram......bhaktaṁ cha chelaṁ cha lapsyāmhe, Bhāsya*, II. 36). Pāṇini mentions workmen receiving daily food as *bhākta* or *bhāktika* (IV. 4.68). The Jātakas also refer to wages in the form of food, such as *yavāgū* and *bhakta*.

 TRADE AND COMMERCE

Pāṇini uses a variety of terms connected with trade, *e. g.*, currency and barter (*nimāna*), traders (*vāṇija*) and trade routes (*patha*), sale and purchase (*kraya-vikraya*), shops (*āpaṇa*), saleable commodities (*paṇya*), taxes on trade (*śulka*) and banking and loans (*ṛiṇa*),

VYAVAHĀRA (BUSINESS)—Trade and commerce are implied in the general term *vyavahāra* (II. 3.57), also called *paṇa* (II. 3.57), Its main feature is *kraya-vikraya* (IV. 4.13), *i. e.*, sale and purchase. It appears that *vyavahāra* included larger business such as export and import, while *paṇa* denoted local sale and purchase, whence saleable goods were called *paṇya* (IV. 4.51).

TRADERS—Traders are called *vaṇik* (III. 3.52) and *vāṇija*, (VI. 2. 13). These terms seem to have been applied to traders without reference to caste, e. g., *Madra-vāṇija*, one who traded with the Madra country (VI. 2.13).

Merchants were named after the nature of their business and the amount of capital they invested in it, *e. g.*, (1) *kraya-vikrayika*, whose main occupation was buying and selling (IV. 4.13); and (2) *vasnika*, a merchant who invested his own money in business (IV. 4.13); and (3) *sāṁsthānika*, a member of a commercial guild (*saṁsthāna*, IV. 4.72). The last was probably the same as *sārthika* or *sārthavāha* mentioned in the Jātakas. Pāṇini also refers to other classes of traders, e. g., *prāstārika*, one who deals in minerals; *kaṭhine vyavharati*, one who deals in forest produce like bamboo (*vaṁśa*) and grasses (*vārdha*, IV. 472, *Kāśikā*).

The traders were also named after the articles in which they dealt and from the countries visited by them for business (*Gantavya-paṇyaṁ vāṇije*, VI. 2.13), *e. g.*, *aśva-vāṇija*,

a dealer in horses, and *Gāndhāri-vāṇija*, a trader who goes to Gandhāra on business (*gatvā vyavaharati*, *Kāśikā*), *Kāśmīra-vāṇija*, *Madra-vāṇija*. These examples of merchants visiting distant provinces on business point to inter-provincial commercial intercourse and activity. The Jātakas often refer to merchants from eastern India going with their carvans to remote destinations in north-west India, *e.g.* trade relations between Videha and Kashmīra and Gandhāra (III. 365), Magadha and Sovīra (*Vimānavatthu Aṭṭhakathā*, p.336), Rājagṛiha and Śrāvastī (*Sutta Nip*, vv. 1012-3), Banāras and Śiāvastī (II.294), and Banāras and Ujjain (II.248) [B. C. Law, *India as Described in Buddhist and Jain Texts*, p. 185]. As a matter of fact the names of merchants envisaged in Pāṇini's rule would better apply to merchants trading with distant countries.

BUSINESS—A place of business was called *āpaṇa* (III.3. 119, *etya tasminn-āpaṇanta ityāpaṇaḥ*, *Kāśikā*) and articles of trade *paṇya* and *paṇitavya* (III.1.101). These when properly displayed in shops were called *krayya*, 'to be sold' (*Krayyas-tadarthe*, IV. 1. 82). *Paṇya* is a general term for merchandise, while *krayya* denotes wares marked out for sale.

The *sūtra Tena krītam* (V. 1. 37), 'purchased with that', points to the practice of sale and purchase of goods for a price fixed between the buyer and the seller. Pāṇini mentions several coins of gold, silver and copper which served as media of exchange (*infra*, Sec. 9).

The articles purchased in the market were named after the price paid for them. A variety of epithets are noted as applied to articles purchased for one *nishka* (V. 1. 20.), 2 *nishkas*, 3 *nishkas* (V. 1. 30), 1 or 1½ *viṁśatika* coin (V. 1. 32), 1 *śatamāna* (V. 1. 27), 1 *kārshāpaṇa* or 1000 *kārshāpaṇas* (V. 1. 29), a *śāṇa coin*, or a *pāda*, or a *māsha* of copper (V. (1. 34-35), etc. Thus articles with a wide range of values are mentioned, *e.g.* those value at one thousand or more silver pieces (*sahasra kārshāpaṇas*, V. 1. 27), and those of the

lowest value like a copper *māsha*. The system of barter (*nimāna*, V. 2. 47) was also known (*infra*, Sec. 7).

EARNEST-MONEY—In settling the sale and purchase of goods it is customary for the buyer to advance earnest-money to the seller as gurantee of good faith. Pāṇini refers to such a contract as *satyāpayati* (III. 1. 25) or *satyā karoti* (V. 4. 66) (*mayaitat kretavyamiti tathyaṁ karoti, Kāśikā*) and to the earnest money as *satyaṁkāra* (VI.3.70 ; cf. Hindi *sāī*, part of the price paid in advance).[1] The system of *satyāpana*, paying earnest money extends even to hired workmen, as confectioners engaged to work for a feast.

CAPITAL AND PROFIT—Profit is called *lābha* (V. 1. 47). Pāṇini draws a clear distinction between the capital invested called *mūla*, and the profit earned on it (*mūlena ānāmya*) as *mūlya* (IV.4.91, *paṭādīnāṁ utpattikāraṇaṁ mūlam, mūlyaṁ hi saguṇaṁ mūlam, Kāśikā* ; '*mūla* is the cost-price of cloth and *mūlya* is the cost with profits'). Pāṇini also notes a second meaning of *mūlya* to denote an object equivalent in value to the price paid (*mūlena samam*, IV. 4. 91). In the first instance, *mūlya* is taken as the cost price plus profit, accruing to the seller ; in the second case the object is regarded as worth the money paid. Pāṇini refers to a sale transaction named after the amount of profit earned from it (*Tadasmin vriddhyāya-lābha-śulka-opadā dīyate*, V. 1. 47), *e.g. pañchaka, saptaka, śatya* or *śatika, sāhasra, i.e.* a deal giving a profit of 5, 7, 100 or 1,000 coins (*Kāśikā*). *Pañchaka*, giving 5 as profit, perhaps referred to a capital sum of rupees one hundred, as we known from Kauṭilya mentioning the profit of a middle man to be 5% (*Arth.* IV. 2).

VASNA—In the Vedic literature *vasna* denotes the 'price' paid for anything, or its 'value' or the thing as an object of purchase, 'ware' (*Vedic Index*, II.278). Pāṇini discusses *vasna* in three *sūtras* (IV.4.13; V.1.51; V.1.56), where its meaning is sale-price or value realised (*mūlya, Kāśikā*). In

1 Cf. *Yāj. Smriti*, II.61 ; also Mallinātha on *Kirāta*, XI, 50.

the first instance a *vasnika* trader was one who only owned a financial interest in the profits of the deal as contrasted with *kraya vikrayika* (IV.4.13) who carried on actual business himself. Next a *vasnika* trader was named according to his *vasna* or share in the sale-proceeds (*so'syāṁśa-vasna-bhṛitayaḥ*, V. 1. 56), *e.g.* *sāhasra*, 'whose share of sale-proceeds is one thousand.' This refers to some kind of corporate business as was carried on by the *saṁsthānika* or *sārthavāha* traders.

Thirdly a *vasnika* merchant is distinguished from a *dravyaka* (V.1.51), the latter was a trader on outward journey conveying merchandise for sale (*dravya*), and the former was so-called because he carried the sale-proceeds on his return journey home. The three stages in the journey of a trader are thus called: (1) *harati*, at the source, (2) *vahati*, in the process of transport, and (3) *āvahati*, at the end of the journey. Thus a caravan merchant carrying goods from Mathurā to Takshaśilā would be called *dravyaka* in three places, viz., at Mathurā whence he was carrying (Pāṇini's *harati = deśāntaraṁ prāpayati*, *Kāśikā*), on the way while transporting (*vahati*), and at Takshaśila where he arrived (*āvahati*). The same man returning from Takshaśilā to Mathurā with the sale-proceeds was called *vasnaka* at those very three stages of the journey. As specific instances of merchandise transported by the *dravyaka* traders, Pāṇini mentions *vaṁśa* (bamboo), *kuṭaja* (*Holarrhena antidysenterica*), *balbaja* (a coarse grass, *Eleusine indica*, *Hindi babai*), *mūla* (roots), *aksha* (axle), *sthūṇā* (pillar), *aśman* (stone), *aśva* (horses), *ikshu* (sugarcane) and *khaṭvā* (bed-steads), whence the traders were called *vāṁśika or vāṁśabhārika, etc.* *Vasna* went out of use after Pāṇini, but survives in Bhojapurī dialect. The *Arthaśāstra* uses the popular *mūlya*. Patañjali has it once in the sense of sale-price (*anyena hi vasnen-aikaṁ gāṁ krīṇāti, anyena dvau, anyena trīn, Bhāshya*, I.95).

TAXES ON TRADE—*Śulka* denoted such taxes on trade as customs and octroi. Pāṇini mentions that the consign-

ment was named after the duty paid on it (V.1.47). The custom-house was called *śulkaśālā* and the income from customs *śaulkaśālika* (stock-example on IV.3.75, *Ṭhag-āyasthānebhyaḥ*). *Ardha* (V.1.48) and *bhāga* (V.1.49) are mentioned as amounts of octroi duty, (both denoting half of a *kārshāpaṇa*), the consignment being called *ardhika* or *bhāgika* (also *bhāgya*).

Pāṇini makes a general reference to taxes levied in the eastern part of India (*Prāchāṁ kāra-nāma*), amongst which Patañjali includes toll-taxes, *e.g.* *avikaṭoraṇaḥ*, 'one ram levied per fold of sheep (*Kāranāmni cha Prāchāṁ haladau*, VI.3.10, *Bhāshya*, III. 144). The *Kāśikā* cites other stock-examples as *yūtha-paśu*, one animal-head per herd of cattle; *nadī-dohanī*, one pailful milk levied at the ferry. Other similar taxes, but not on trade were *dṛishadi-māshaka*, one *māshaka* coin collected per mill (household); *mukuṭe-kārshāpaṇam*, one *kārshāpaṇa* coin per capita; *hale-dvipadikā*, two *pāda* coins per ploughshare, which seems to have been a tax on agriculture. Patañjali considers these to be names of current taxes sanctioned by usage (*loka*).

TRADE ROUTES—As already stated Pāṇini mentions roads leading from one city to another (*Tad-gachchhati pathi-dutayoḥ*, IV.3.85), and marked into well-defined stages (see illustration on *sūtra*, III.3.136). *Kātyāyana* mentions different kinds of trade routes, as through forests (*kāntārapatha*), jungle-thickets (*jaṅgalapatha*), on land (*sthalapatha*), and in water (*vāripatha*). The goods gathered (*āhṛita*) and transported along these routes were called after the route, *e.g.* *kāntāra-pathika*, goods coming by way of the forest. The *kāntāra-patha* seems to be the name of the route across the Vindhya forests which, as we know from Buddhist literature, connected Kośāmbī with Pratishṭhāna and Bharukachchha. *Ajapatha* (goat-track) and *śaṅkupatha* (precipitous route negotiated by spikes) were narrow pathways in mountainous regions (*vārttika* on V.1.77; *Bhāshya*, II. 358). Liquorice (*madhuka*) and pepper (*maricha*)

were imported by the land route called *sthalapatha* (*Kātyāyana*), evidently from the south.

In the Devapathādi-gaṇa (V.3. 100) Pāṇini refers to various kinds of routes, *e.g.* *vāripatha*, *sthalapatha*, *rathapatha*, *karipatha*, *ajapatha*, *śaṅkupatha*, *rājapatha*, *siṁhapatha*, adding two more, *viz*....*haṁsapatha and devapatha*, which relate to air. We get an old record of some of these in the *Mahāniddesa* e.g. *jaṇṇupatha* (correct reading *vaṇṇupatha* = Skt. *varṇupatha*, route through the sandy tract of Sindh-Sagar Doab, leading to Bannu, cf. *Vaṇṇupatha Jāt.*) ; *ajapatha* (goat-track), *meṇḍhapatha* (ram-track), *saṁkupatha* (spike-track), *chhattapatha* (parasol route), *vaṁsapatha* (bamboo-track), *sakuṇapatha* (bird-track, cf. Pāṇini's *haṁsapatha*), *mūsikapatha* ('mouse passage', a narrow tunnel), *darīpatha* (*a big tunnel*) and *vettachāra* (course of reeds) (*Mahāniddesa*, Vol. I. pp. 154-55 ; Vol. II, pp. 414-15).

Light is thrown on Pāṇini's *ajapatha* by the *Bṛihatkathā ślokasaṅgraha* pescribing *ajapatha* during the coarse of a journey to Suvarṇabhūmi as a very narrow goat-track which could not be crossed by two persons from opposite sides (*Brihatkathā ślokasaṅgraha*, XVIII. 416 ; Sylvain Lévi, 'Ptolēmée, la Niddesa et la Bṛihatkathā' *Etudes Asiatique*, Vol. II, pp. 1-55, Paris 1925). Narrow tracks leading over high mountains and defiles were negotiated with the help of goats and rams to transport merchandise.

Pāṇini's *śaṅkupatha* refers to even more difficult mountainous ascents which could be negotiated only by scaling the heights with the help of spikes or nails carefully driven into the hill-side. A Jātaka passage also refers to *saṁkupatha* (*vettāchāro saṁkupatha pi chinne*, Jat. III. 541). Pāṇini's *haṁsapatha* corresponds to *sakuṇapatha* of the *Mahāniddesa*. Kālidāsa also refers to *devapatha* (= *surapatha*), *ghanapatha* and *khagapatha* mentioned in the order of their relative heights *Raghuvaṁśa*, XIII. 19). *Devapatha* originally was a track in the sky, but in the *sūtra* under reference Pāṇini refers to *devapatha* as a technical term denoting the

highest passage on the top of the rampart of a city, which derived its name from its height compared to the *devapatha* in the sky. We are indebted to the *Arthaśāstra* for this technical meaning of *devapatha* implied in Pāṇini's *sūtra* (*Arthaśāstra*, II. 3).

UTTARAPATHA—Pāṇini mentions *Uttarapatha* and the articles procured (*āhṛita*) along that route as *auttarapathika* (*Uttarapathen-āhritaṁ cha*, V 1. 77), the latter also denoted the travellers on it (*Uttarapathena gachchhati*). The *Uttara-patha* may be identified with the ancient highway from east India to Gandhāra and thence towards farther west. The entire Grand Trunk Road within India and as far as the Oxus, was well known to the Greeks as 'Northern Route', a literal rendering of *Uttarapatha*.

Its Oxo-Caspian portion from India to the West by the Oxus and the Caspian is mentioned by Strabo (II. 73 ; XI. 509) and Pliny (Tarn, *The Greeks in Bactria and India*, p. 488, Appendix 14). 'Strabo, speaking of the Oxus, states (XI, 509) that it formed a link in an important chain along which Indian goods were carried to Europe by way of the Caspian and the Black Seas. He cites as one of his authorities Patrocles, who was an admiral in the service of Antiochus I, and thus makes it clear that the route was a popular one early in the 3rd century B.C.' (*Cambridge History of India*, Vol. I, p. 433). Strabo also wrote that 'The Oxus is sufficiently navigable for the Indian trade to be carried across to it and to be easily brought down the river to the Hyrcanian (sea) and the places beyond as far as the Black Sea by way of the rivers.' (Tarn, *op. cit.*, p. 489).

On the Indian side this route was linked up with Pāṭaliputra and ultimately with the mouth of the Ganges. As Rawlinson writes : 'The first thing which struck Megasthenes on entering India, was the Royal Road from the frontier Pāṭaliputra, down which the envoy must have travelled to the capital. It was constructed in eight stages, and ran from the frontier town of Peukelaotis to Taxila ; from Taxila,

across the Indus, to the *Jihlam*; then to the Beas, near the spot where Alexander erected his altars. From here it went to the Sutlej; from the Sutlej to the Jamna; and from the Jamna, probably *via* Hastinapura, to the Ganges. From the Ganges the road ran to a town called Rhodopha, and from Rhodopha to Kalinipaxa (probably Kānyakubja or Kanauj). From Kanauj it went to the mighty town of Prayāga at the junction of the Ganges and the Jamna, and from Prayāga to Pāṭaliputra. From the capital it continued its course to the mouth of the Ganges, probably at Tamluk, though Megasthenes never traversed the last stage of the road. At every mile along the road was a stone to indicate the by-roads and distances'. (*Intercourse between India and the Western World*, p. 42; also its Appendix I for the distances between the stages on the Royal Road, p. 64). This great highway passed through important *janapadas* and cities, such as Bālhīka, Kāpiśī, Pushkalāvatī, Takshaśilā, Śākala, Hāstinapura, Rathaspā (=Gk. Rhodopha, a name of the Rāmagaṅgā), Kānyakubja, Prayāga, Pāṭaliputra and Tāmralipti. Along this great highway must have passed up and down long caravans transporting merchandise (*bhāṇḍa*, III. 1 20). On this route lay the town called Udbhāṇḍa (Ohind) as the destination where the merchandise was unloaded for transhipment across the Indus.

ARTICLES OF TRADE—As names of marketable articles (*Tadasya paṇyam*, IV. 4. 51), Pāṇini mentions *lavaṇa* (salt, IV. 4. 52), perfumes like *kiśara, tagara, guggulu, uśīra* (IV. 4.53) and *śalālu* (a kind of perfume, IV.4.54; cf. Pālī *salala*, the sweet scented flower of *Pinus devadara*, Jāt. V. 420; *Sāratthapakāsinī*, III. p. 263. The *Ashṭādhyāyī* acquaints us with an interesting list of other economic products, such as silk fabrics (*kauśeya*, IV.3.42), wool and woollen stuffs (*ūrṇā* and *aurṇaka*, IV. 3. 158), linen and linen goods (*umā* and *auma*, IV.3.158), hemp (*bhaṅgā*, V.2.4), cotton (*tūla*, III. 1.25; *karpāsī, gaṇa* of IV. 3. 136); cloth (*vastra*, III. 1. 21); clothing like *upasaṁvyāna* (I. 1. 36, *āchchhādana*, IV. 3. 143), *bṛihatikā* (a dress reaching up to feet, V. 4. 6); blankets like

paṇya-kambala of a fixed weight and set standard (VI. 2. 42; IV.1.22), *prāvāra* (III.3.54) and *pāṇḍu kambala* (IV.2.11) imported from Gandhāra; deer skins (*ajina*, VI.2.194); skins of tigers and leopards (*dvaipa, vaiyāghra*, IV.2.12) used as upholstering material for chariots; dye-stuffs (*rāga*), like lac (*lākshā*, IV. 2. 2), orpiment (*rochanā*, IV. 2. 2), madder (*mañjishṭhā*, VIII.3.97) and indigo (*nīlī*, IV.1.42); sacks and grain containers (*āvapana*), as *goṇī* (IV. 1. 42); big and small leather containers (*kutū* and *kutupa*. V.3.89); leather goods as shoes (*upānah*, V.1.14), straps and thongs (*naddhrī*, III. 2. 182, *vārdhra*, IV. 3. 151); iron chains (*śṛiṅkhala*, V.2. 79), spikes (*ayaḥ-śūla*, V.2.76), tools and instruments like sickle (*dātra*, III. 2. 182), ploughshare (*kuśī* IV.1.42), yoke (*yuga*), axle (*aksha*, VI. 3. 104), spade (*khanitra*, III. 2. 184), oar (*aritra*, III. 2. 184), loom (*tantra*, V. 2. 70) and shuttle (*pravāṇī*, V.4.160); food stuffs like *guḍa* (IV.4.103), *phāṇita* (VII.2.18), milk (*kshīra*), curds (*dadhi*), butter (*haiyaṅgavīna*, V.2.23), vegetables (*śāka*, VI. 2. 128), cereals and pulses (*dhānyas*); utensils and pottery (*amatra*, IV.2.14; *kaulālaka*, IV. 3. 118) of various sizes to cook different quantities (III. 2. 33); intoxicating drinks like *madya* (III. 1. 100), *maireya* (VI. 2. 70), *surā* (II. 4. 25) prepared in distilleries (*āsuti*, V. 2. 112) and sold in booths (*śuṇḍika* IV. 3. 76) and the costly *kāpiśāyana* imported from *Kāpiśī* in north Afghanistan (IV. 2. 99); gold and silver ornaments like *karṇikā*, *lalāṭikā* (IV. 3. 65); gems (*maṇi*) like emerald (*sasyaka*, V. 2. 68), ruby (*lohitaka*, V. 4. 30) and cat's eye (*vaidūrya*, IV.3.84); metals as gold, silver, copper, lead and tin; arms and weapons (*śastra*, III. 2. 182), as spears (*śakti*, IV. 4. 59), javelins (*kāsū*, V. 3. 90), battle-axe (*paraśvadha*, IV. 4. 58), bows (*dhanu*,), arrows (*ishu*, VI. 2. 107) and coats of mail (*varma*, III. 1. 25); musical instruments like lute (*vīṇā*, III. 3. 65), tabor (*maḍḍuka*), cymbals (*jharjhara*, IV. 4. 56); and miscellaneous objects like images (*pratikṛiti*, V. 3. 96), garland (*mālā*, VI. 3. 65), perfumery (IV. 4. 53; IV. 4. 54); balance (*tulā*, IV. 4. 91), weights (*māna*), measures (*parimāṇa*), coins; and various conveyances like wagons (*śakaṭa*), chariots (*ratha*) and boats (*nau*, IV. 4.7), etc.

The *Kāśikā* illustrating Pāṇini VI. 2. 13 (*Gantavya-paṇyaṁ vāṇije*) particularly mentions merchants who dealt in cows, bulls (*go-vāṇija*) and horses (*aśva-vāṇija*). Pāṇini himself refers to the famous breed of bulls from the Sālva country, (IV. 2.136) and to the breed of mares from beyond the Indus (*pāre-vaḍavā*, VI. 2.42).

These were some articles, trading in which was not approved, *e. g. soma-vikrayī*, *rasa-vikrayī* (*Kāśikā* on III. 2. 93, *Karmaṇīni vikriyaḥ*). The selling of *soma* plant and liquids as cow's milk was also banned by the law-books (cf. *Manu*, X. 86-89).

Trade depended upon provision of necessary stocks called by Pāṇini as *saṁbhāṇḍayate* (III. 1.20; equal to *samāchayana* of Kātyāyana, and of ware-houses where they were stocked (*bhāṇḍāgāra*, IV. 4.70).

CH. IV, SECTION 7. EXCHANGE AND BARTER

Pāṇini refers to barter as *nimāna* (V. 2.47), i. e. exchange of goods by agreement. What was given in exchange was considered as equivalent in price (*mūlya*) to what was received (*nimeya*). The *sūtra Saṁkhyāyā guṇasya nimāne mayaṭ* seeks to regulate the grammatical formation expressing the barter ratio, on the pattern that the price of a portion of one thing is equal to so many portions of the other. For example, *dvimayam udaśvid yavānām*, "butter-milk is two-times the value of barley," *i. e.* two parts of barley is the price on one part of butter-milk (*udaśvit*). The comparison must be made with one portion of *nimeya* (thing to be bought) with several portions of the *nimāna*. The ratio must be x : 1, but never x : 2, or x, etc., in which x denotes the *nimāna*.

NATURE OF BARTER TRANSACTIONS—The range of articles covered by barter mostly concerns simple things of ordinary use, such as food, clothing, and domestic animals. Pāṇini refers to *vasana* or a piece of cloth as a medium of exchange, the thing purchased in exchange for cloth being called *vāsana* (V. 1. 27). In Hindi *bāsan* (= Skt. *vāsana*) means household utensils. It is thus indicated that the women exchanged pieces of cloth with metallic and other utensils, as even today. There is also reference to articles purchased for one *go-puchchha* (*go-puchchhena krītaṁ, gaupuchchhikam*, V. 1. 19). Dr. D. R. Bhandarkar takes *go-puchchha* literally to be the tail of a cow as a circulating medium, (*Anc. Ind. Num.*, p. 169-70), but *go-puchchha* indicated the cow itself as in the anologous English term 'cattle-head.' The idiom had its origin in the ancient custom of transferring the owner-ship of a cow by holding her tail; the grazing tax levied per Head of cattle is still called *puchchhī* or tail-tax in north India. From the Vedic period the cow had formed a

medium of exchange and a measure of value (*Vedic Index*, I. 196, 234). The term *gau-puchchhika* should thus be taken to have applied to an object received in exchange for one cow. Patañjali mentions an even bigger transaction negotiated in exchange for five cows (*pañchabhir-gobhiḥ krītaḥ pañchaguḥ*, *Bhāshya*, I.2. 44; I. 216); and also the purchasing of a chariot for five *kroshṭrīs* (VII.1.96; III. 273). The meaning of *kroshṭrī* in *pañcha kroshṭrī-krīta-ratha* is not clear; it was perhaps the name of a particular stack of grain like *dhānya-gava* (bull-stack mentioned in *sūtra* VI.2.72). *Dvi-kambalyā*, *tri-kambalyā* cited on IV.1.22 refer to sheep purchased for two or three *kambalya* measure of wool, one *kambalya* being equal to 5 seers (*Kāśikā* on Pāṇini V.1.3). The *Kāśikā* cites *pañchāśvā* and *daśāśvā*, i.e. a female slave purchased for the price of five or ten horses (IV. 1. 22).

Mention is also made of *kaṁsa* (V. 1. 25), *śūrpa* (V. 1. 26) and *khārī* (V. 1. 33) in connection with the purchase of commodities. Dr. D. R. Bhandarkar points out 'As these are clearly measures of capacity, the only inference possible is that such commodities were bought by means of these measures and most probably with grains which were the staple food of the province' (*Anc. Ind. Num.* p. 170). In several examples and counter-examples we find reference to other measures of weight used in bartering transactions, e.g. *dvyañjali*, *tryañjali*, purchased for two or three handfuls (*dvābhyām añjalibhyāṁ krītaḥ*, *Kāśikā* on V. 4. 102, *Dvi-tribhyām añjaleḥ*) Similarly, an object purchased for two or three *āchita* measure was called *dvyāchitā*, *tryāchitā* (IV.1. 22, *āchita*=10 *bhāra* or 25 maunds). Pāṇini mentions *śaurpa* and *śaurpika* as applied to articles purchased for one *śūrpa* measure (V. 1. 26), to which Patañjali adds *dvi-śūrpa* and *tri-śūrpa* (II. 346, 348). The *goṇī* measure (1. 2. 50) was equal to two *śūrpas* and is mentioned in connection with barter in such phrases as *pañcha-goṇiḥ* and *daśa-goṇiḥ*, 'purchased for 5 or 10 *goṇis*' (I.226), the articles so purchased being cloth according to the *Kāśikā* (I. 2. 50). The *pañcha-goṇi paṭa* seems to have been a single *śāṭaka*, costing one

kārshāpaṇa coin, and the *daśa-goṇi paṭa* a double *śāṭaka*, called *śāṭaka-yuga* (I.1.36, *var*. 7), including both the *antarīya* and the *uttarīya*, of which the value was two silver *kārshāpaṇas*. The phrase *vasanārṇa*, debt incurred for buying cloth (VI. 1. 89, *vār*. 7) seems to have been a special loan transactions of one or two silver rupees. A *goṇī* was equal to one maund, which indicates that the buying capacity of one *kārshāṇaṇa* equalled five maunds.

The examples *pañcha nauḥ*, *daśa-nauḥ* refer to a big deal in exchange for five or ten boatfuls of merchandise (*Kāśikā* on *Nāvo Dvigoḥ*, V. 4. 99) Patañjali refers to consignments of five hundred boats or five hundred rafts (*pañch-oḍupa-śatāni tīrṇāni, pañcha-phalaka śatāni tīrnāṇi, Bhāshya*, II. 366), which point to a flourishing riverine traffic in goods which rich merchants (*parama-vāṇija, uttama-vāṇija* on Pāṇini V.2. 13) must have handled.

TERMS—The word *parimāṇa* in the *Ashṭādhyāyī* denotes cubic and gravitational measures, and *pramāṇa* a lineal measure. According to Patañjali[1] *unmāna* is a measure of weight, *parimāṇa* of volume or capacity (*sarvatomānam*), and *pramāṇa* a lineal measure (*āyāma*). *Pautava* used in the *Arthaśāstra* (Cf. *Pautavādhyaksha*, Superintendent of Weights and Measures) is unknown to Pāṇini.

Parimāṇa has a two-fold sense in the *Ashṭādhyāyī*. In its technical (*rūḍhi*) sense it excludes *saṅkhyā* or number as in *sūtra* V. 1. 19 where both words are used together; and in a more general sense it includes even *saṁkhyā*, as in *sūtras* III. 3. 20 and IV 3. 156 (where the *Kāśikā* specially notes the comprehensive meaning of *parimāṇa*). *Parimāṇa* thus denoted weights and measures from which the numerals as also measures of time were excluded, as stated by Patañjali on the authority of an old *vārttika* (*jñāpakaṁ tu kāla parimāṇānāṁ parimāṇāgrahaṇasya*, III. 321; VII. 3. 15). The lineal measures whenever they are mentioned are strictly distinguished as *pramāṇa*.

SCALE—A scale is called *tulā*, and articles weighed with a balance *tulya* (*tulayā sammitam*, IV.4.91). The string fastened to the horizontal rod in order to lift the scales was called *pragraha* in the language of traders (*Pre vaṇijām*, III. 3. 52). The measures appear to have been made of wood. The word *druvaya* found earlier in the Atharvaveda (V. 20. 2) and meaning 'wooden form of a drum', is mentioned by Pāṇini to denote a measure (*Māne vayaḥ*, IV. 3. 162) and is reminiscent of the times when wooden measures were in use. A tradition recorded in grammatical literature credits a Nanda king with the standar-

1 *Ūrdhvamānaṁ kilonmānaṁ parimānam tu sarvataḥ, Āyāmas tu pramāṇaṁ syāt saṁkhyā bāhyā tu sarvataḥ*, *Bhāshya*, V.1.19; II.343.

dising of weight and measures for the first time (*Nando pakramāṇi mānāni*, *Kāśikā*, II. 4. 21 and VI. 2. 14). This may have been due to meet the needs of a vast empire. By the time of Patañjali, measures like *droṇa*, *khārī* and *āḍhaka*, etc., had been fixed as of an approved standard (*aktanarimāṇanām arthānāṁ vāchakā bhavanti naivādhike bhavanti na cha nyūne*, *Bhāshya*, I.4.13 ; I.216).

WEIGHTS—Pāṇini mentions the following weights :

(1) *Māsha*—It occurs as the name of a coin (V.1.34), and also denoted a corresponding weight, which was 5 *rattis* for gold and copper and 2 for silver (*Arth.* II. 12 and *Manu* VIII. 135).

Pāṇini also refers to *nishpāva* (III.3. 28), which finds mention in Jain literature (*Annyogadvāra Sūtra*, 132) after *yuñjā* and *kākiṇī* and was used for weighing gold, silver, jewels, pearls, etc.

(2) *Śāṇa*—It is referred to in two *sūtras* (V.1.35 ; VII. 3. 17) as the name of a coin. According to the *Mahābhārata śāṇa* was one-eighth of a *śatamāna* or 100 rattis (Vanaparva, 134. 14), and thus weighed 12½ *rattis*. Charaka refers to *śāṇa* as one-fourth of a *suvarṇa*, *i e.* four *māshakas* or 20 *rattis* (Kalpasthāna, XII. 89), and its half-weight as *śāṇārdha* for weighing small doses of medicine (*Chikitsāsthāna*, XXVI, 248).

(3) *Bista* (IV. 1. 22 ; V. 1. 31). Pāṇini refers to articles purchased for two or three *bistas*. The *Amarakośa* explains *bista* as a synonym of *karsha* or *aksha* used for weighing gold. Charaka treats *karsha*, *suvarṇa* and *aksha* as synonyms. It appears that Pāṇini used *bista* as a synonym for *suvarṇa*. Thus *bista* was equal to 80 *rattis*.

(4) *Añjali* (V. 4. 102). In such phrases as 'purchased for two or three *añjalis*' (*dvy-añjali*, *try-añjali*) *añjali* is a definite measure. A weight of two *palas* equalled one *prasriti* and two *prasritis* one *añjali*. According to Charaka 16 *suvarṇas* make one *añjali*, which was also called *kuḍava*.

Kauṭilya makes *kuḍava* as the basis of calculating higher weights, e.g. four *kuḍavas* = one *prastha*, and four *prastha* = one *āḍhaka* (*Artha.*, Vol. II. 19). This is the same scale as in Charaka.

(5) *Āḍkaka* (V. 1. 53). It was a weight equal to 16 *kuḍavas* or 256 *karshas*. Charaka makes *pātra* a synonym of *āḍhaka* (Kalpasthāna, XII. 94). Pāṇini mentions both these in *sūtra* V. 1. 53, with reference to cooks able to handle so much quantity. Special mention is made of fields requiring one *pātra* of seed for sowing (V. 1. 46, *pātrikaṁ kshetram*, *pātrikī kshetrabhaktiḥ*).

(6) *Kaṁsa* (V. 1. 25; VI. 2. 122). Charaka explains *kaṁsa* as equal to 8 *prasthas* or 2 *āḍhakas*. In the older literature *kaṁsa* is said to have denoted a pot or vessel of metal (*Vedic Index*, 1. 130).

(7) *Mantha* (VI, 2. 122). The exact weight is not indicated in any table, but Pāṇini mentions it after *kaṁsa* and before *śūrpa* as a measure-denoting word, and this makes it highly probable that *mantha* corresponds to *droṇa* with its synonyms of *kalaśa* and *ghaṭa* in the table of Charaka. A *mantha* would thus be equal to 4 *kaṁsas* or 8 *āḍhakas*.

(8) *Śūrpa* (V. 1. 26; VI. 2122). It was a measure equal to two *droṇas* (Charaka) or twenty seers.

(9) *Khārī* (V.1.33). Pāṇini refers to an article purchased for 1½ *khārī* called *adhyardha-khārīka*, and says that in the opinion of the Eastern grammarians *khārī* becomes *khāra* in a *Dvigu* compound (V. 4. 101, *Khāryāḥ Prāchām*). *Kātyāyana* mentions the latter form in the *vārttika khāra-śatādyartham* (V. 1. 58). It appears that *khārī* was the unit for measuring large heaps of corn, as in the expression *khāra-śatika rāśi* and *khāra-sahasrika rāśi*, heap of corn on the threshing floor weighing 100 and 1000 *khārīs* (*Bhāshya*, II. 353). A *khārī* was certainly a higher weight than *droṇa* as Patañjali would have it *adhiko droṇaḥ khāryām*, II. 387; V. 2. 73). The *Arthaśāstra* defines *khārī* equal to 16 *droṇas* (II. 19.). In the table of Charaka 4 *droṇas* make 1 *khārī*.

The *Bhāshya* refers to *khārī* as an *ashṭikā*, or a measure having eight divisions (VII. 3.45, *vār*. 9; III. 326).

(10) *Goṇī* (I. 2. 50). A *śloka-vārttika* interprets *goṇī* as a measure (*Bhāshya*, 1.2.50 I.226), *goṇīmātramidam goṇiḥ*). According to Charaka *goṇī* is synonymous with *khārī*. A *goṇī* was equal to two *śūrpas* or one maund.

(11) *Bhāra*. It is referred to in *sūtra* VI. 2. 38, in connection with the derivation of *mahā-bhāra*. The exact significance is uncertain, but like other words of that *sūtra* it was a *saṁjña* word with a definite meaning, and not a common noun. According to the table given in the *Amara-kośa* (II.9 87) 1 *bhāra* = 8,000 *karshas* or nearly $2\frac{1}{2}$ maunds. This is supported by Kauṭilya defining *bhāra* as equal to 20 *tulās* (*viṁśati-tauliko bhāraḥ*, II. 19); *tulā* being equal to 100 *palas*, a *bhāra* would be = 2,000 *palas* or $2\frac{1}{2}$ maunds. It appears that the quantity weighed at one time by a hand-balance was one *tulā* or 5 seers. *Bhāra* appears to be a head-load carried by a human being, and *mahā-bhāra* would indicate a quantity much in excess of this, most likely a cart-load.

(12) *Achita* (IV.1.22; V.1.53). According to *Amara*, *āchita* is a cart-load (*śākaṭobhāra āchitaḥ*, II. 9. 87), consisting of 10 *bhāras*, which is equal to 20,000 *palas*, or 25 maunds.

Other measures mentioned are *pāyya* (III.1 129), *kulija* (V. 1.55), *shashṭhaka* (V.3.51), the exact significanee of which is not known. The *pāyya* seems to be the measure called *pāi* in Punjab and Rajputānā and *pyā* in the U. P., used for measuring grain and having a capacity of 5 to 7 seers. Its smaller unit of about 3 seers is called *pāyali* in *Bombay*.[1] In *sūtra* VI. 2. 122 Pāṇini regulates the accentuation of *pāyya* in a numeral compound. *Kulija* is mentioned in the *Kauśika Sūtra* (12 and 43). *Shashṭhaka* seems to be related to *shashṭhāṁśa* a sixth part, being the amount of grain

1. Cf. Burmese *pyi* a measure, about a quart (*B.S.O.S.*, X. p.39).

taken by the king as tax. Its minimum unit seems to be a *droṇa* measure as indicated by the term *droṇa-māpaka*, an officer appointed to collect one-sixth share of the produce (*Kurudhamma Jāt.* III.276). *Vaha* (III. 3. 119) and *kumbha* (VI. 2. 102) are also mentioned without being specified as measures, but in the *Arthaśāstra* *kumbha* was 20 *droṇas* and *vaha* equal to 10 *kumbhas*.

Paṇa is also stated to be a *parimāṇa*, but not with reference to the famous coin of that name. It rather signifies bundles of vegetables tied together and sold as a unit, *e. g. mūlakapaṇa, harita-paṇa* (III.3.66).

MEASURES OF LENGTH

PRAMĀṆA—*Pramāṇa* denotes a measure of length, except in VI.2.4, where it includes weights also as *go-lavaṇa, aśva-lavaṇa*, salt for the cow and the horse, and in VI. 2. 12 where the length of time is also indicated by it as *Prāchya-saptasamaḥ*, *Gāndhāri-saptasamaḥ*, meaning a resident of seven years' standing in the Prāchya or Gandhāra country.

Pāṇini mentions the following measures of length :

(1) *Aṅguli* (V. 4. 86). 8 barley grains (*Arth.* II. 20, p. 106) = ¾th of an English inch.

(2) *Dishṭi* and *Vitasti* (IV. 2. 31). Both are synonymous terms (*Bhāshya*, quoting a *śloka-vārttika*, VI. 2. 1; III. 122). *Vitasti* in the table of the *Arthaśāstra* = 12 *aṅgulas* (II. 20). But *dishṭi* as a measure is of very rare occurrence in Indian literature. The word occurs in the Kharoshṭhī documents from Central Asia as *diṭhi*, corresponding to the Iranian measure *distay*, no doubt equivalent to a span (F. W. Thomas, Some Notes on Central Asian Kharoshṭhī Documents, *B. S. O. A. S., XI*, 1945, p. 547).

Patañjali also mentions the *śama* measure before *dishṭi* and *vitasti* (*Bhāshya*, V.2.37 ; II. 378), which according to the *Arthaśāstra* was equal to 14 *aṅgulas*. Probably the

word *śambā* in Pāṇini (V.4.58) was connected with the *śama* measure, and indicated that kind of intensive ploughing in which the furrow was deepened to a *śama* or 14 *aṅgulas* of depth (*śambā karoti*).

(3) ***Purusha.*** Pāṇini mentions the *purusha* measure, preceded by a numeral, to denote depth (*Purushāt pramāṇe' nyatarasyām*, IV.1.24), *e.g. dvipurushā, dvipurushī; tripurushā tripurushī parikhā*, a moat 2 or 3 '*purushas*' deep; or *dvipurusham, tripurusham udakam*, water 2 or 3 *purusha* measures deep (*Purusha-hastibhyām-aṇ cha*, V.2.38, *Kāśikā*). Anything equal to 1 *purusha measure* in depth was called *paurusha*.

The *purusha* measure is stated in the *Arthaśāstra* (II.20) to be of three kinds:

(*i*) 5′ 3″ = 84 *aṅgulas* = 1 *vyāma* = 1 *khāta purusha*, for measuring ropes, moats and depths;

(*ii*) 6′ = 96 *aṅgulas* = 4 *aratni* = 1 *purusha*, being the standard height of a man, probably to measure recruits for the army;

(*iii*) 6′ 9″ = 108 *āṅgulas* = 4½ *aratni* = 1 *purusha* measure, for sacrificial altars.

Thus a moat of 2 *purusha* measures was 10½ ft. in depth and of 3 *purushas* 15¾ ft. According to Baudhāyana the *purusha* measure for altars was slightly bigger: *Pañchāratniḥ purusho vyāmaścha* (*Baudh.* S. XXX.1. p. 389), *i.e.* a *purusha* or *vyāma* is equal to 5 *aratnis* or 7½ ft. (cf. also *Padamañjarī* on IV.1.24, *Pañchāratniḥ purusha iti Sulva-vidaḥ*).

(4) ***Hastin.*** A *hastī* measure is to be determined from the standard measurement of an elephant of the best class at forty years age, *viz.* 'seven *aratnis* in height, nine *aratnis* in *length*, ten *aratnis* in circumference' (*Arth.* II. 31).

Kauṭilya, refers to the *hastī* measure twice, and at both places the length of the animal (*hastyāyāma*) is taken and not its height (p. 136). It shows that in general practice

the *hastī* measure was based on the length of the animal, which was *9 aratnis* = 13½ ft.

The height of a rampart in the *Mahāsutasoma Jātaka* (V.477) is stated as 18 cubits (*aṭṭhārasa-hattha-pākārena*), or 27 feet, which would be equal to *2 hastī* measures. Even today a fort-wall is built to be 18 cubits in height.

(5) *Kāṇḍa* (IV.1.23, VI.2.122) is referred to as a measure for measuring the area of fields. The *Arthaśāstra* in the table of field measures refers to 1 *daṇḍa* = six *kaṁsas* or 192 *aṅgulas*, i. e. 12 ft. (*Arth.* II. 20, p. 107). *Dvikāṇḍī trikāṇḍī rajjuḥ*, cited in the *Kāśikā* shows that *kāṇḍa* was a submultiple of *rajju*. The *Bālamanoramā* takes *kāṇḍa* and *daṇḍa* to be synonymous with a length of 16 *hastas* or 27 ft. The Jātakas mention the *Rajjugāhaka* officers connected with land-surveying (*Kurudhama Jat.* III. 276). 1 *rajju* measure was equal to 10 *daṇḍas*. *Nivartanā* an ancient square measure for measuring the area of fields was equal to 3 *rajjus*. When *kāṇḍa* denoted merely a lineal measure it took the suffix *ṅīp*, as *dvikāṇḍī rajju*, but when a square measure or area of a field (*kshetrabhakti*) it took *ṭāp* in the feminine gender, as *dvi-kāṇḍā kshetrabhaktiḥ*.

(6) *Kishku*. It is included in the *Gaṇa-pāṭha* of VI. 1. 157 (*Pāraskara-prabhṛitīni cha saṁjñāyām*), which on the authority of Patañjali (III. 96) may be taken as a genuine reading. According to the *Arthaśastra*, *kishku* was = 32 *aṅgulas* (2 feet) in ordinary usage, but = 42 *aṅgulas* for sawyers and blacksmiths. It was a measure employed in connection with camping grounds, forts and palaces (*Arth.* II. 20). It is referred to in the Mahābhārata (Āraṇyaka-parva, 126. 29).

(7) *Yojana* (V. 1.74), a measure = 4 *gorutas* or *krośas* = 2,000 × 4 yards, or 4.54 British miles. (Cf. *Arth.* Trans. by Dr. Shamsastri, p. 118 with footnote).

A summary of lineal measure is given below; those in Italics being from Pāṇini.

8	Yavas	=	1	Aṅgula	=	$^3/_4$ in.
12	Aṅgulas	=	1	*Dishṭi* or *Vitasti*	=	9 in.
2	Vitastis	=	1	Aratni	=	$1^1/_2$ ft.
42	Aṅgulas	=	1	*Kishku*	=	$2' \, 7^1/_2''$
84	Aṅgulas	=	1	*Khāta Paurusha*	=	5 1/3 ft.
216	Aṅgulas	=	1	*Hastī Ayāma*	=	$13^1/_2$ ft.
192	Aṅgulas	=	1	Daṇḍa = *Kāṇḍa*	=	12 ft.
10	Daṇḍa	=	1	Rajju	=	40 yds.

CH. IV, SECTION 9. COINAGE

The *Ārhīya* section of the *Ashṭādhyāyī* (*Adhyāya* V, *pāda* 1, *sūtras* 19-37) furnishes some important data in respect of the oldest coinage of India.[1] The general sense governing these *sūtras* is that of *Tena krītam* (IV. 1.37), 'purchased with that,' and *Tad arhati* (V. 1.63), 'worth that.' An attempt is made here to bring together the available evidence from the *sūtras* and their commentaries, and to discuss it with a view to identifying the denominations and value of those coins in the light of facts known from ancient Indian numismatic history.

GOLD COINS—Nishka and *Suvarṇa.*

1. *Nishka.* 'As early as the *Ṛigveda* traces are seen of the use of Nishka as a sort of currency, for a singer celebrates the receipt of a hundred Nishkas and a hundred steeds: he could hardly require the Nishkas merely for purposes of personal adornment. Later the use of Nishkas as currency is quite clear.' (*Vedic Index*, I. 455). The *Śatapatha Brāhmaṇa* refers to a *nishka* of gold (XI. 4.1.8). The Jātakas also mention *nishka* as a gold coin (*A. I. N.*, p. 48).

Pāṇini mentions *nishka* in the following three *sūtras*:

(*i*) *Asamāse nishkādibhyaḥ* (V. 1.20), *i. e.* the *ṭhak* suffix is added in the sense of *tena Krītam*, etc. to *nishka* and others including *paṇa*, *pāda*, *māsha*, when not in a compound. For example, *naishkika* means 'purchased for' or 'worth' one *nishka*. Similarly *pāṇika*, *pādika* and *māshika*, denoted an article purchased for these coins.

(*ii*) *Dvi-tri-pūrvān-nishkāt* (V. 1. 30). It refers to a transaction concluded for two or three *nishkas*, for which

1. Cf. D. R. Bhandarkar's *Lectures on Ancient Indian Numismatics*, p. 55, referred to here as *A. I. N.*

special forms were *dvi-nishkam, dvi-naishkikam* ; *tri-nishkam, tri-naishkikam.*

(*iii*) *Śata-sahar-āntāchcha nishkāt* (V. 2. 119), i.e. the affix *ṭhañ* comes in the sense of *matup*, after the words *śata* and *sahasra*, when they are prefixed to *nishka*. Thus in Pāṇini's time a possessor of one hundred *nishkas* was called *naishka-śatika*, and of one thousand *nishkas*, *naishka-sahasrika*. These appear to be real titles indicating the degree of opulence (*āḍhyabhāva*, III. 2. 56) of the person so designated. The *Mbh.* also refers to these two degrees of wealth, consisting of 100 and 1000 *nishkas* (*śatena nishka-gaṇitaṁ sahsreṇa cha sammitam*, Anuśāsanaparva, 13. 43). Patañjali uses the terms *nishka-dhana*, and *śata-nishkadhana* (owner of 1 *nishka* or 100 *nishka* pieces, II.414). The *Kāśikā* adds that it was not usual to add the word *suvarṇa* before *nishka*, evidently because *nishka* was already understood as a gold coin (*Kāśikā*, V. 2. 110, *suvarṇa-nishka-śataṁ asy-āst-īty-anabhidhānān-na bhavati*). The *Śatapatha Brāhmaṇa* states that the *nishka* offered by Uddālaka Āruṇi to his learned rival Svaidāyana was of gold (*Ś. Br.* XI. 4. 1. 8). The *Kuhaka Jātaka* refers to a farmer bringing his hundred *nishkas* of gold to an ascetic (I. 375). According to the *Mbh.* the unit of wealth was reckoned at 108 *nishkas* of gold (*ashṭaṁ śataṁ suvarṇānāṁ nishkam āhurdhanaṁ tathā*, Droṇaparva, 67. 10). The *Vessantara Jātaka* mentions a thousand *nishkas* as the amount for the redemption of *Vessantara's* son (VI. 546).[1]

Nishka as gold coin also seems to have had its submultiples. Dr. D. R. Bhandarkar suggested that the 20,000 *pādas* offered by king Janaka as prize to the most learned Brāhmaṇa in the assembly of philosophers were gold coins related to *nishka* (*A. I. N.*, p. 60). He also supposed that this *pāda* coin was the same as that referred to in Pāṇini's *sūtra Paṇa-pāda-māsha-śatādyat*, V. 1. 34. While it is likely

1 Dr. Bhandarkar, *A.I.N.*, pp. 48, 49. Also *Juṇha Jātaka* (No. 456, IV.97) referring to more than a 1,000 gold *nishkas*.

that king Janaka offered gold pieces called *pāda* as *dakshiṇā* it is not certain if *pāda* of *sūtra* V.I.34 was a token coin of the gold *nishka*. From its juxtaposition with *paṇa* it may as well have been related to the silver *kārshāpaṇa*, in which series it is mentioned by Kauṭilya (*Arth*. II. 12, p. 84). The submultiple *pāda* coin of *nishka*, however, did exist, as Patañjali refers to it as *pannishka* and *pāda-nishka* (*Nishke chopsaṅkhyānaṁ kartayam*, *sūtra* VI. 3. 56; III. 163, '*pāda* optionally becomes *pad* before *nishka*'). Manu defines *nishka* as equal in weight to four *suvarṇas* or 320 *rattis* (*chatuḥ-sauvarṇiko nishkaḥ*, *Manu*, VIII. 137). This would make a *pādanishka* synonymous with *suvarṇa*, but since no specimens of either the *nishka* or *suvarṇa* have yet come to light, it is not possible to indicate their relative weights. The *Kāśikā* instances *nishka-mālā* (VI. 2. 55), a necklace of *nishkas*, as indicative of wealth in coins (*hiraṇya-parimāṇa*).

2. *Suvarṇa*. Pāṇini does not name the *suvarṇa* coin, but the same is implied in *sūtra* *Hiraṇya-parimāṇaṁ dhane* (VI. 2. 55), which refers to a person's wealth in terms of coined gold, *e.g.* *dvi-suvarṇa dhanam* (*Kāśikā*).

Kauṭilya mentions *suvarṇa* as a weight equal to 1 *karsha* or 80 *guñjās* (=140 grains). Older specimens of punch-marked *suvarṇa* coins are wanting, but this theoretical weight is confirmed by the *suvarṇa* coins of the Gupta period which were struck after an indigenous weight standard. From such examples as *dvi-suvarṇa-dhana*, *adhyardha-suvarṇa*, *dvi-suvarṇa* (purchased for 1½ or 2 *suvarṇas*, V 1. 29), it is certain that *suvarṇa* was a coin with a weight of 1 *karsha*.

When the words *hiraṇya* and *suvarṇa* are found associated together, the former denotes bullion and the latter coined gold (*hiraññа-suvaṇṇa* in the *Jātakas* and the *Arthaśāstra*, V. 2, p. 245, *A.I.N.*, p. 51).

In another *sūtra* Pāṇini refers to pieces of gold equal to a standard weight (*Jātarūpebhyaḥ parimāṇe*, IV. 3. 153). Obviously such pieces were gold coins, as shown by its examples cited in the *Kāśikā*, *viz.* *hāṭako nishkah*, *hāṭakaṁ*

kārshāpaṇam, gold pieces or coins called *nishka* and *kārshāpaṇa* struck to a standard weight. Gold *kārshāpaṇas* are not mentioned elsewhere; and *Kāśikā's* reference is either to *suvarṇa* coins of one *karsha* weight, or to the much later gold coins of Kedāra Kushāṇas, also referred to by it as *Kedāra* (V.2.120).

Whereas literary evidence supports the existence of a gold currency, so far not a single specimen of a gold punch-marked coin of any denomination has been found in any hoard. Patañjali is possibly hinting at gold currency when he refers to the purchase of two *droṇa* measures of corn with gold sufficient for it (*dvi-droṇena hiraṇyena dhānyaṁ krīṇāti*), or to the purchase of one thousand horses with the amount of gold sufficient for it (*sahasra-parimāṇam sāhasram*; *sāhasreṇa hiraṇyena aśvān krīṇāti*, *Bhāshya*, II. 3. 18; I. 452).

3. *Suvarṇa-Māshaka.* The *māsha* coin in gold and copper weighed 5 *rattis* and in silver 2 *rattis* (cf. *A.I.N.*, p. 52; *Arth.* II. 18. p. 103). Specimens of silver and copper *māshas* are known, but *suvarṇa-māshaka* occurs only in literature. The *Udaya Jātaka* mentions a golden dish with *suvarṇa-māshakas*, a silver dish with the same, and a copper dish with silver *kahāpaṇas*, the three being mentioned in order of their diminishing value (*suvaṇṇa-māsaka-pūrāṁ ekāṁ suvaṇṇa-pātiṁ*, *Udaya Jātaka*, IV. 106-8). A silver *kārshāpaṇa* (32 *rattis*) was thus lower in value than a gold *māshaka* (5 rattis). Gold and silver were thus related in the ratio of about one to seven in the period of the *Jātakas*.

SILVER COINAGE—Śatamāna. It is referred to in the *sūtra* *Śatamāna viṁśatika-sahasra-vasanād aṇ* (V. 1. 27), *i.e.* the affix *aṇ* comes after *śatamāna*, *viṁśatika* and others in the prescribed sense, *e.g.* *śatamānena krītaṁ śātamānam*, an article purchased for one *śatamāna* was called *śātamāna*. From the *Śatapatha Brāhmaṇa* (V. 5. 5. 16 *tasya trīṇi śatamānāni hiraṇyāni dakshinā*; VIII. 2. 3. 2, *hiraṇyaṁ dakshiṇā*

suvarṇaṁ śatamānaṃ tasyoktam), it is evident that *śatamāna* was also a gold coin. According to the *Vedic Index māna* in Vedic literature was a measure of weight equivalent to the *krishṇala or raktikā* (II. 152). Thus the weight of *śatamāna* taken literally would be 100 *rattis*.

But the *śatamāna* was more properly related to silver coinage. In the *Śatapatha Brāhmaṇa* (XIII. 2.3.2) it is stated: 'Gold and silver will be the fee for the sake of variety to correspond to the manifold forms of the deity, and that *dakshiṇā* will be *Śatamāna*, since a human being lives for one hundred years' (*Rajataṁ hiraṇyaṁ dakshiṇā nānārūpatayā śatamānaṁ bharati śatāyur-vai purushaḥ*, *ŚB.*, XIII.4.2. 10). Here is a definite reference to a silver *śatamāna* coin of 100 parts, *i e*. 100 *ratti* wt. Manu mentions the silver *śatamāna* as equal to ten *dharaṇas* or 320 *rattis* in wt. (VIII 137), but no actual specimen of a silver punch-marked coin conforms to the extraordinary weight of 560 grains.

The heaviest silver punch-marked pieces so far discovered are the oblong bars found by Sir John Marshall in the Bhir mound at Taxila along with two coins of Alexander the Great and one of Philip Aridaeus, 'fresh from the mint' and therefore assignable to about the middle of fourth century B. C. Their weight range between 155.7 grains (in the case of much worn pieces) to 177.3 grains (Allan, *Anc. Ind. Coins*, p. xiii, also pp. 1-2). Allan connects them, without good reason, with the weight standard of the Achaemenid *siglos* and thinks that they were struck as double *sigloi*. Now, the maximum weight of the Persian *sigloi* is said to be 86.45 grains and that of a double *siglos* could not have exceeded 173 grains, which makes Allan's identification untenable (cf. Durga Prasad, *Science and Culture*, 1938, pp. 462-65). In terms of an Indian weight standard these oblong bars approximate to 100 *ratti* or 180 grains weight, the heaviest one of 177.3 grains being equal to 98.5 *rattis*, a *ratti* weighing 1.8 grs. Taking the literal meaning of *śatamāna*, 'of the weight of 100 *māna*' or

kṛishṇalas as suggested in the *Vedic Index* (II.152), it would appear that the Takshaśilā bent-bar coins (*śalākā*) represent the ancient *śatamāna* coins of silver. They are struck with symbols with regular orientation and were part of the oldest punch-marked currency. Kātyāyana mentions *śatamāna* in a *vārttika*[1] to regularise such formations as *adhyardha-śatamānam, dvi-śatamānam* (purchased for 1½ or 2 *śatamānas*) which suggests that the *śatamāna* was a current coin up to the time of Kātyāyana (cf. also *Bhāshya* on V. 1. 29).

Śāṇa. Pāṇini refers to a range of prices in terms of *śāṇa* coins, such as 1½ *śāṇa* (*Śāṇād-vā*, V. 1.35, *adhyardha-śāṇam, adhyardha-śāṇyam*), 2 *śāṇas* (*dvi-śāṇam, dvaiśāṇam, dvi-śāṇyam*) and 3 *śāṇas* (*tri-śāṇam, traiśāṇam, tri-śāṇyam*, V. 1. 36), to which Patañjali adds *pañcha-śāṇam* and *pañcha-śāṇyam* (*Bhāshya*, II. 350). This shows *śāṇa* to have been quite a popular coin. Pāṇini also mentions *śāṇa* as a *parimāṇa*, i.e. weight (*Parimāṇāntasyāsaṁjñā-śāṇayoḥ*, VII. 3. 17) but such examples as *dvai-śāṇa*, purchased for 2 *śāṇas*, show that it was the name of a coin. Charaka refers to *śāṇa* as a weight equal to one-fourth of a *suvarṇa* or *karsha*, *i. e.* 20 *rattis*. This may have been a gold *śāṇa* of which we are not certain. But *śāṇa* as a real silver coin was one-eighth of one *śatamāna* as stated positively in the *Mahābhārata* (*ashṭau śāṇāḥ śatamānaṁ vahanti*, Āraṇyakaparva, 134.14); its weight therefore was 12½ *rattis* or 22.5 grs. (Cf. *J.N S.I.*, XIV, pp. 22-26).

Pāṇini refers to certain taxes levied in east India (VI.3.10), on which the *Kāśikā* cites *sūpe-śāṇaḥ* (VI.2.64 and VI. 3. 10), a special cess at the rate of one *śāṇa* coin per kitchen (*sūpa*) or household.

Kārshāpaṇa. Pāṇini refers to *kārshāpaṇa* in *sūtra* V. 1. 29 (*Vibhāshā kārshāpaṇa-sahasrābhyām*)[2] regulating the forms

1 *Vār. Suvarṇa-śatamānayor=upasaṅkhyānam.*
Bhāshya. Adhyardha-śatamānam, adhyardha-śātamānam, dvi-śatamānam, dvi-śātamānam.

2 That the word *kārshāpaṇa* was also included in the *Ardharchādi* group (II. 4. 31) may be stated on the strength of Patañjali (I. 480) using both the masculine and neuter forms *kārshāpaṇaḥ, kārshāpaṇam.*

adhyardha-kārshāpaṇam dvi-kārshāpaṇam, purchased for 1½ or 2 *kārshāpaṇa* coins.

The word *kārshāpaṇa* is unknown in the Saṁhitā or Brāhmaṇa literature (excepting once in the *Sāmavidhāna Br.* III.7.9) and is peculiarly a term of classical Sanskrit coined in the Sūtra period.

Kārshāpaṇa was the name of the silver punch-marked coin of which numerous hoards have been found in various parts of India. It was the standard medium of exchange from about the sixth century B. C. downwards. Like the present rupee it had its sub-multiples, of which Pāṇini mentions ½ as *ardha* (V. 1. 48, *ardha śabdo rūpakārdhasya rūḍhiḥ*, *Kāśikā*) and *bhāga* (V. 1. 49 *bhāga-śabdo'pi rūpakārdhasya vāchakaḥ*); ¼ as *pāda* (V. 1. 34); and 1/16 as *māsha* (V.1.34). When Pāṇini refers to big sums (V. 1. 27; 29; 34) without specifying the name of the coin it is the silver *kārshāpaṇa* that is meant as being the standard coin of his time. The *Jātakas* also show that the *kārshāpaṇa* was then the standard coin of the country (cf. D.R. Bhandarkar, A. I.N.p,79). In *sūtra* V. 1. 21 Pāṇini teaches a suffix after 100 (*śata*) without the name of a coin in the sense of 'purchased therewith'; in *sūtra* V.1.27, after 1000 (*sahasra*); and in V.1.29 after 1,500 (*adhyardha-sahasra*) and 2000 (*dvi-sahasra*), etc. In all these cases the standard coin, *viz.* the silver *kārshāpaṇa*, is to be understood. The *Gaṅgamāla Jātaka* likewise mentions big amounts of a hundred thousand and fifty thousand pieces where *kārshāpaṇa* is understood. Similarly, the *Arthaśāstra* (p. 368) refers in a descending order to *śata-sahasra*, *pañchāśat-sahasra*, *daśa-sahasra*, *pañcha-sahasra*, *sahasra*, *śata* and *viṁśati* coins, which meant so many silver *paṇas* (*kārshāpaṇas*). The same linguistic form is known to Patañjali who mentions *śata-sahasra* coins without the word *kārshāpaṇa* (II. 1. 69. 5; I.404), and refers to a hundred pairs of *śāris* purchased for one hundred, i.e. 100 silver *kārshāpaṇas* (*śatena krītaṁ śatyaṁ śāṭaka-śatam*, *Bhāshya*, V. 1. 21; II. 3. 46). On Pāṇini V.2.45 (*Tad asminn adhikam-iti daśantāḍ-ḍaḥ*) Patañjali definitely

says that the phrase *ekādaśaṁ śatam* and *ekādaśaṁ sahasram* are understood to refer respectively to a hundred and a thousand *kārshāpaṇas* exceeded by eleven. Similarly *śata* in V. 1. 34 prefixed by *adhyardha*, *dvi* and *tri* would refer to 150, 200 and 300 *kārshāpaṇs*, and the same standard coin is meant in *sūtra* V. 4. 2 in such phrases as *dvi-śatikāṁ daṇḍitaḥ*, 'fined two hundred (*kārshāpaṇas*).

It is worth noting that the *Jātakas* invariably refer to the name of the current coin as *kahāpaṇa*. The *Ashṭādhyāyī* uses both names, *kārshāpaṇa* (V. 1. 29) and *paṇa* (V. 1. 34); whereas the *Arthaśāstra* uses hundreds of times only the shorter form *paṇa*. It is possible that some kind of chronological sequence is indicated here. Kātyāyana records one more name for *kārshāpaṇa*, viz. *prati*, an article purchased for one *kārshāpaṇa* being balled *pratika* (*kārshāpaṇād vā pratiś cha*, V. 1. 25; II. 347). *Prati*, a much later name for *kārshāpaṇa*, is also mentioned in the Sabhāparva (*pratikaṁ cha śataṁ vriddhyā dadāsya-ṛiṇam anugraham*, 5.68, *i. e.* a relief loan at 1 p. c. interest), and also in the Nasik Cave Ins. of Ushavadata recording 1 *pratika* interest on 2000 and ¾ *padika* on 1000 *kahāpaṇas* (*Ep. Ind.* VIII, 82). [See also *J.N.SI.*, VII. 32].

The Table of Kārshāpaṇa

In order to understand more clearly the lower denominations of the *kārshāpaṇa* which Pāṇini has mentioned, a comparative table of *kārshāpaṇa* and its sub-multiples is given below. Our best source is a passage in the *Arthaśāstra*[1] (*Arth.* II.12, p. 84), and another in the *Gaṅgamāla Jātaka*[2],

[1] पणमर्धपणं पादमष्टभागमिति । पादाजीव ताम्ररूपं माषकमर्धमाषकं काकिणीमर्धकाकिणोमिति । (अर्थ शास्त्र २।१२)

[2] तेन हि पन्नास-सहस्सानि चत्तालीस-तिस-वीसति-दस-पंच-चत्तारि-तयो द्वे एको कहापणो, अड्ढो पादो चत्तारो मासका, तयो द्वे एको मासको तिपुच्छि। सब्बं पटिखिपित्वा अड्ढमासको ति वुत्ते ग्राम देव एत्तकं मह्यं धनं (गंगमाल जातक ३।४४८) ।

which together with the evidence from the grammatical literature furnish the following names :

Division	*Pāṇini*	*Jātakas*	*Arthaśāstra*
1/1	Kārshāpaṇa and Paṇa	Kahāpaṇa	Paṇa
1/2	Ardha ; also called Bhāga	Aḍḍha	Ardha-Paṇa
1/4	Pāda	Pāda ; Chattāro Māsakā.	Pāda
1/8	Dvi-Māsha	Dve-Māsakā	Ashṭabhāga
1/16	Māsha	Eka-Māsaka	Māshaka
1/32	Ardha-Māsha	Aḍḍha-Māsaka	Ardha-Māshaka
	Kakaṇi (*Vārt.* on V. 1. 33)	Kākiṇī	Kākaṇī
	Ardha-Kākaṇī (*Vārt.*)		Ardha-Kākaṇī

(2) HALF-KĀRSHĀPAṆA (*Ardha* and *Bhāga*)—Pāṇini refers to *ardha* (V 1.48) as the name of a current coin. *Kāśikā* explains it as a half *kārshāpaṇa*. A small transaction involving a profit, income, tax, *etc.* of an *ardha* was called *ardhika*. The *Mahāsupina Jātaka* mentions *aḍḍha* and *pāda* as current coin names coming after *kārshāpaṇa* (*Kahāpaṇ-aḍḍha-pāda-māsarupādini*, *Jāt.* 1. 340). Kauṭilya refers to *ardhapaṇa* and Kātyāyana to *ardha* as a coin by itself (*Tiṭhan ardhāch-cha*, *Vārttika* on V. 1. 25); that which was purchased for an *ardha* was called *ardhika* or *ardhikī*.

Another important name of the *ardha* coin given in the *Ashṭādhyāyī* is *bhāga*, to indicate the main sub-multiple of *kārshāpaṇa* (*Bhāgād yach cha*, V. 1. 49 ; *Kāśikā*, *Bhaga-śabdo' pi rūpak ārdhasya vāchakaḥ*).

(3) *QUARTER-KĀRSHĀPAṆA*—Pāṇini refers to *pāda* in *sūtra* V.1.34. Patañjali calls it *pādika* paid as daily wages to a labourer (*karmakarāḥ kurvanti pādikam-ahar-lapsyāmahaiti*, *Bhāshya* I.3.72; I.293). The terms *dvipadikā* and *tripadikā* signifying two and three *pādas* respectively are obviously implied in *sūtra* V.4.1 (see *Bhāshya*, III.362 for these names;

also *Kāśikā* on VI. 2. 65; VI. 3. 10; VI. 4. 130). They do not appear to be independent coins, but simply the *pāda* coin preceded by *dvi* and *tri*.

(4) *ONE-EIGHT KĀRSHĀPAṆA*—Kauṭilya refers to it as *ashṭabhāga*, an actual coin related to the *paṇa* (*Arth*. II. 12, p. 84). Manu calls it *pādārdha* (VIII. 404). The *Ashṭādhyāyī* implies *dvi-māsha* in *sūtra* V. 1. 34; the *Arthaśāstra* makes it a unit of a weight in the *Suvarṇa* series (p. 130). The *Jātakas* are silent about one-eighth *kahāpaṇa*.

Cunningham thought that the tale of silver coins was limited to three divisions, the *kārshāpaṇa*, with its half and its quarter (*Coins of Ancient India*, p. 46). To this we can now definitely add the name of one-sixteenth *kārshāpaṇa*. *Dvimāsha* may also mean two pieces of *māsha* coins or one double piece; for purposes of grammatical rules the form of the word would be the same.

(5) *MĀSHA*—*Sūtra* V. 1. 34 mentions *māsha* after *paṇa* and *pāda*. *Māsha* was both a silver and a copper coin. For purposes of grammatical formations the word-form would remain the same. A silver *māsha* was one-sixteenth part of a *kārshāpaṇa* and weighed 2 *rattis* (3.6 grs.), as stated by Manu (VIII. 135, *Dve kṛishṇale samadhrito vijñeyo raupya-māshakaḥ*). Actual specimens of silver *māsha* coins *raupya-māsha*) have now been found in a hoard at Bhir mound, Takshaśilā, and at Ṭhaṭhāri in M. P. They are minute coins with a single symbol stamped on one side, weighing 2 to 3 grains and with a diameter of .2 inches (*J.N S.I.*, VIII. 41; XIII, 168).

COPPER CURRENCY—The copper *māsha* was a sub-multiple of the copper *kārshāpaṇa* and weighed 5 *rattis*, i. e. one-sixteenth of a *tāmrika-paṇa* of 80 *rattis*. The *kārshāpaṇa* was the standard unit of both silver and copper currencies similar to the *suvarṇa* of the gold currency. Its lower divisions in the copper series were *ardha-māshaka*, *kākaṇī* and *ardha-kākaṇī* according to Kauṭilya. Pāṇini

refers to *adhyardha-māsha* in *sūtra* V. 1. 34, *i. e.* one and a half *māsha*, which shows his acquaintance with an actual coin called *ardha-māsha*. This *ardha-māsha* was a copper coin.[1] The *aḍḍha-māsaka* coin is referred to in the *Jātakas* (*Aḍḍhamāsaka Jāt.*).

Pāṇini does not mention the *kākaṇī* and *ardha-kākaṇī*, but Kātyāyana knows them is current coins (*vārttika* on V. 1. 33).[2] Both *kākaṇī* and *ardha kākaṇī* are mentioned in the *Arthaśāstra* (II. 12) as copper pieces, *kākaṇīka* being the charge per day for stamping weights and measures (II. 19). The *Jātakas* know of the *kākaṇī* coin, *e. g.* the *Chulla-seṭṭhi Jātaka* states one *kākaṇī* as the price of a dead mouse (I. 120), and the *Sālittaka Jātaka* refers to village boys giving a *kākaṇī* coin to a cripple saying 'Make an elephant,' 'Make a horse' (*Jāt.*, I. 419). It is possible that the *kākaṇī* came into use after Pāṇini's time, otherwise such a singular grammatical formation would not have escaped his notice.

VIṀŚATIKA—(a silver punch-marked coin of 20 *māshas*). Pāṇini knows of a heavier *kārshāpaṇa* called *viṁśatika* equivalent to 20 *māshas* as against the standard *kārshāpaṇa* of 16 *māshas*. *Viṁśatika* is mentioned in the following *sūtras* :

Śatamāna-viṁśatika-sahasra-vasanād-aṇ (V. 1. 27) ;

Viṁśatikāt khaḥ (V. 1. 32).

1. I once thought that an *addhamāsa* of silver (of 1 *ratti* 1. 8. grs. theoretical weight) would be too minute to be handled and did not exist. Recently a number of minute coins were brought to me, obtained by the gold-washers in the Indus near Jahangira. The lot contains several specimens of silver *ardha-māshakas*, weighing 1.518, 1.132, 1.577, 1.22 grs. etc., and .160" dia. in size. One silver specimen weighs .4783 grains and is .102" in size. Nevertheless it is a regular specimen with a symbol consisting of seven globules on one side. It is an *ardhakākaṇī* coin in silver. I am inclined to believe that a *kākaṇī* and a *ardha-kākaṇī* coin in silver also existed. This would be true of the post-Pāṇinian, or the Mauryan epoch. For these and other specimens from Ujjain, see *J.N.S.I.*, XIII, 164–174.

2. *Vārt.* *Kākaṇyāś-chopasaṁkhyānam.*
Bhāshya—Adhyardha-kākaṇikam, dvi-kākaṇikam.
Vārt—Kevalāyāś cha.
Bhāshya—Kevalāyāś-ch-eti vaktavyam, kākaṇikam.
i. e. an artical purchased for one *kākaṇī* coin, or 1½ *kākaṇi* or 2 *kākaṇis.*

The first rule states that the affix *aṇ* is added to *viṁśatika* and others in the sense of 'purchased for so much' (and other meanings taught upto V. 1. 63). For example, *vaiṁśatika*, 'that which is purchased for a *viṁśatika* coin'.

The second *sūtra* enjoins *kha* affix in the same sense after the word *viṁśatika* when preceded by the word *adhyardha* or a numeral in a *Dvigu* compound *i.e. adhyardh-viṁśatikīṇam, dvi-viṁśatikīṇam,* and *tri-viṁśatikīnam*, purchased for 1½, 2 and 3 *viṁśatika* coins.

Again *sūtra* V. 1. 24 (*Viṁśati-triṁśadbhyām ḍvunn-asaṁjñāyām*) Pāṇini mentions *viṁśatika* and *triṁśatika* as counter-examples which in this context were names (*saṁjñā*) of coins. Thus Pāṇini knows of these two special coins in a very intimate manner. The *viṁśatika* as its name implies was a coin of twenty, and the *triṁśatka* of thirty parts, *i.e. māshas*.

As to the real nature and identy of the *viṁśatika* coin, the following evidence throws light on a coinage system based on twenty divisions:

(1) The commentary *Samanta-pāsādikā* of Buddhaghosha on the *Vinaya-piṭaka* tells us that in the time of king Bimbisāra in the city of Rajagṛiha a *kahāpaṇa* was equal to twenty *māskas*, wherefore one *pāda* equalled five *māskas*.[1] This statement is cofirmed by *Sāratthadīpanī* of Sāriputta Thera, a commentary on the *Samanta-pāsādikā*.[2]

(2) The *Gaṅgamāla Jātaka*, (*Jāt.* III. p. 448), while mentioning the sub-divisions of *kārshāpaṇa*, speaks of a four-*māshaka* piece as being lower in value than a *pāda*, which is possible only if the *pāda* coin be equal to five

1 *Tadā Rajagahe vīsatimāsako kahāpaṇo hoti, tasmā pañchamāsako pādo.* See, Some New Numismatic Terms in Pali Texts, by Mr. C. D. Chatterji M. A., *J.U.P.H.S.*, VI, May 1933, p. 157. Also Dr. Bhandarkar, *A. I. N.*, pp. 111, 186; Dr. D.C. Sirkar, *J.N.S.I.*, XIII, p. 187.

2 *Iminā va sabba-janapadesu kahāpaṇassa vīsatimo bhāgo māsako' ti.* (Mr. Chatterji, *op. cit.*, p. 158).

māshakas, being one quarter of a *kārshāpaṇa* of twenty *māshakas*. (Dr. Bhandarkar, *A.I.N.*, p. 112).

(3) The *Yājñavalkya-Smṛiti* mentions a *pala* weight equal to four or five *suvarṇas* (I.364) on the basis of which the *Mitāksharā* notes : *Pañcha-suvarṇa-pala-pakshe viṁśati-māshaḥ paṇo bhavati* (*Yāj. Smriti*, I.365), *i.e.* in the cases of a *pala* equalling five *suvarṇas*, *the paṇa* has a weight of twenty *māshas*.

(4) The *Kātyāyana-Smṛiti* also preserves a tradition that a *kārshāpaṇa* equalled twenty, and not sixteen *māshas*. (Bhandarkar, *A.I.N.* p. 186).

(5) Patañjali cites another teacher (*apara*) stating that 'in times past sixteen *māshas* made one *kārshāpaṇa*', implying that in his time the *kārshāpaṇa* of 20 *māshas* or *viṁśatika* was known in his locality. It seems that both *viṁśatika* and *kārshāpaṇa* were in circulation in different localities in the same period. It is interesting to note that actual specimens of *viṁśatika* weight coins and their lower denominations have been found in the Pañchāla coinage (Cunningham, *Coins of Ancient India*, p. 81).

The passages from the above sources of different periods show that the *viṁśatika* was a current coin in certain localities *e.g.* Magadha and Pañchāla, as the *kārshāpaṇa* of 16 *māshas* was in other localities. The Pāli texts definitely describe it as *vīsati-māsaka kahāpaṇa*, whereas Pāṇini calls it simply a *viṁśatika*, as a specific name (*saṁjñā*) in popular usage. He is thus referring to the *viṁśatika* and the *kārshāpaṇa* as two varieties of coins of different values.

ACTUAL SPECIMENS OF VIṀŚATIKA COINS—B. Durga Pd. of Banaras informed me that he obtained heavy *kārshāpaṇas* of silver from Rājgīr. These coins weigh from 78 to 80 grains. They are now in the Lucknow Museum (acquired as part of the late numismatist's collection), and from their fabric and symbols it can be said with certainty that they represent an earlier stage than the 32 *ratti kārshāpaṇas*. The period of transition from 20 *māshas*

weight to 16 *māshas* seems to be the epoch of the Nanda kings who are credited with the standardisation of weights. It were most probably the Nandas who initiated a bold reform in the punch-marked currency in the matter of weight, symbols and fabric. All these factors become evident even by a superficial comparison of the *viṁśatika* coins with the standard *kārshāpaṇas* of 16 *māshas* and 5-symbol groups.

TRIṀŚATKA—Besides *viṁśatika*, Pāṇini also mentions another specific coin named *triṁśatka* (V. 1. 24), a name which is found only in the *Ashṭādhyāyī* and not elsewhere. The *triṁśatka* apparently stands for a coin of 30 *māshas*, or 60 *rattis*. B. Durga Prasad obtained from Bihar specimens of silver punch-marked coins, weighing 104 grains and 105.7 grains or about 58 *rattis*, which should be identified as *triṁśatka* (cf. *J.U.P.H.S.*, July, 1939, p. 33).

The *viṁśatika* and *triṁśatka* coins also appear in copper, weighing respectively 20 x 5 = 100 and 30 x 5 = 150 *rattis*. As seen in the Pañchāla coinage, the heavier issues in copper continued in use much longer than in silver.

The *viṁśatika* seems to have had its own sub-multiples of 1/2, 1/4, 1/8, 1/16, all related to the weight standard of 40 *rattis* in silver and 100 *rattis* in copper.

RŪPA (Punch-marked symbols)—A large number of symbols are found stamped on ancient *kārshāpaṇa* coins,[1] on account of which they have been called punch-marked, corresponding to *signati argenti* of the Greek historian Quintius Curtius. 'The mode of manufacturing these coins was first to get ready a hammered sheet, which was then cut into strips, and sub-divided into lengths of

1 The work of correctly identifying these symbols was initiated by Mr. W. Theobald (*JASB*, 1890 & 1901). Recently B. Durga Prasad illustrated about 564 such symbols from a large number of well preserved coins and described them in his Essay entitled 'Classification and Significance of the Symbols on the Silver Punch-marked Coins of Ancient India', *Numismatic Supplement*, No. XLV, 1934, p. 9ff.

approximately the desired weight, which was adjusted by clipping the corners when necessary.' (Smith, *Cat. of the Coins in the Indian Museum*. p. 134). After this the metallic pieces were subjected to the process of stamping symbols on them by means of a separate punch for each symbol. It is this particular stage in the process of manufacture to which Pāṇini refers in the following *sūtra* :

Rūpād āhata-praśaṁsayor-yap (V. 2. 120)

The word *rūpa* takes the affix *yap* in the sense of *āhata*, 'impressed', or *praśaṁsā*, praise, *e.g. Rūpyo gauḥ*, a bull of praiseworthy form ; and *āhataṁ rūpam asya rūpyo dīnāraḥ, rūpyo kedāraḥ, rūpyaṁ kārshāpaṇam*.

The first two examples of *dīnāra* (*Denarius*) and *kedāra* (coins of the Kedāra Kushāṇas, 3rd-4th century A.D.) do not seem to be in order, as these coins were cast in moulds and not punched. The example *rūpyam kārshāpaṇam* was a genuine old example. According to the *Kāśikā* the symbols on such coins were struck with a punch (*nighātikā-tāḍanādinā*). A metal piece as long as it was not stamped (*ayantrita*) had no use as currency.

The word *rūpa* in Pāṇini's *sūtra* being in the singular number, points to one symbol stamped with one punch at a time, i.e. for each symbol separate punching was required. We know from the standard silver coins of 16 *māshas* that each bears a group of five symbols of great variety, and each figure was stamped with its particular punch. On most of the specimens the two symbols in each group are the sun and a six-armed symbol (*shaḍara*), but no definite order seems to have been observed in punching and there is considerable overlapping of symbols. Some of the names of the *rūpas* or figures on these coins were the same as the names of marks (*lakshaṇas*) used in branding cows, as already pointed out (Ch. IV, Sect. 3).

Sometimes the term *rūpa* was used for the coin itself, as in the *Mahāsupina Jātaka* (I.340). Kauṭilya mentions an officer called *Rūpadarśaka* (*Arth.* II.9, p. 69 ; 245), Exa-

miner of Coins. In his comment on a *vārttika* to Pāṇini's *sūtra* I. 4. 52, Patañjali also refers to an officer called *Rūpatarka* whose duty was to scrutinise the current *kārshāpaṇa* coins (*paśyati Rūpatarkaḥ kārshāpaṇam*, I. 337).

WEALTH—Wealth is referred to by several terms, such as *dhana*, *sva*, *dravya*, *mūla*, but a new classical word unknown in the Brāhmaṇa and Araṇyaka literature was *svāpateya* (property) corresponding to Pāli *sāpateyya*, of which Pāṇini gives a rather legal definition as *svapatau sādhu* (IV.4.104), that in which the owner (*sva-pati*) has valid title (*sādhu-tā*).

Pāṇini refers to a wealthy man as *āḍhya* (III. 2. 56), corresponding to Pāli *aḍḍho*. The Jātakas also refer to *ibbhas* (Skt. *ibhya*) who appear to be of the same status as *aḍḍhas*. Wealth was indicated in terms of coined gold or silver, e.g. Pāṇini mentions *naishka-śatika*, one whose wealth amounted to 100 *nishkas* of gold, and *naishka-sahasrika*, to 1000 *nishkas* (V. 2. 119). Pāṇini also refers to persons possessing one hundred (*aika-śatika*) or one thousand (*aika-sahasrika*, V. 2. 118), evidently *kārshāpaṇas* of silver. The Jātakas refer to fabulous treasures of eighteen crores or fifty-four crores as in the case of *seṭṭhi* Anāthapiṇḍaka.

MONEY-LENDING—Pāṇini mentions a creditor as *uttamarṇa* (I.4.35); a debtor as *adhamarṇa* (III.3.170); loan as *ṛiṇa* (IV.3.47); interest as *vṛiddhi*; repayment as *pratidāna* (I.4.92); and surety as *pratibhū* (III.2.179; II.3.39).

The Jātakas refer to lending money at interest (*iṇadāna*) as a means of lawful occupation, together with tillage, trade, and harvesting as four honest callings (*Jāt.* IV. 422; *Cambridge History of India*, Vol. I, p. 218). Pāṇini distinguishes interest on a loan as *vṛiddhi* (V. 1.47) from usury as *kusīda* (IV. 4. 31), which is condemned (*Prayachchhati garhyam*, IV. 4. 30). The special term *kusīdika* was meant to mark out the usurer for social opprobrium. The odium attaches even to his family, singled out as *kusīdāyī* (wife of a usurer IV. 1. 37).

Kātyāyana calls usurious interest *vṛidhushi* and the usurer *vārdhushika* (IV.4.30.3).

INTEREST—Pāṇini mentions a definite rate of interest in the expression *daśaikādaśa*, the creditor who gets back 11 (*ekādaśa*) by lending 10 (IV.4.31). This amounts to the rate of about 10 percent considered usurious, and is condemned as such (*garhya*) by Pāṇini. Kauṭilya takes the lawful rate of interest to be 1¼% per month, (*sapāda-paṇā dharmyā māsa-vṛiddhiḥ paṇa-śatasya*, *Arth.* III 11). Manu (VIII.140-43) and Yājñavalkya quote same rate and call it as one-eightieth (of the principal) per month. Vasishṭha (II.51) states the legal rate to be five *māshas* a month for twenty *kārshāpaṇas*. Taking the latter to be a *vimśatika kārshāpaṇa* of twenty *māshas*, the rate of interest works out to one-eightieth part, the same as in Manu. Narada and Gautama agree with the above, and so also Vyāsa, if the loan is against a pledge. Thus 15% was regarded as an equitable rate of interest (*dharmyā vṛiddhi*). Baudhāyana prescribes 20% as interest (*J B.O.R.S.*, 1920, p. 117). In contrast to this the rate of the *dāśaikādaśa* loans working out to a little less than 11% was considered reproachful in Pāṇini's time. Patañjali cites two more examples of usurious loans, in which the lender earned exorbitant amounts as interest and was rightly censured as *dvai guṇika* and *traiguṇika* (IV.4.30; II.331). These must have referred to short term petty loans.

Pāṇini also refers to a much lower rate of interest of half a *kārshāpaṇa* per month called *ardha* and *bhāga* (V.1.48-49) which was equivalent to 6% per anum, the loan transaction being called *ardhika* or *bhāgika*. The *Kāśikā* explains it either as ½ percent (*bhāgikam śatam*) or 2½ percent (*bhāgikā vimśatiḥ*) per month, which would make the rate of interest vary from 6% per annum to 30%.

Loans were also named from the amount of interest earned on them, *e.g.* *pañchaka*, *i.e.* a loan earning 5 as interest. Patañjali also refers to 7, 8, 9, and 10 as the

amount of accruing interest (II.351). Such loans would come under the system called *daśaikādaśa* by Pāṇini. For example, a loan of ten rupees which would become rupees fifteen after five months was called a *pañchaka* loan; similarly *sataka*, *ashṭaka*, *navaka* and *daśaka* respectively. These loans applied to agricultural crops, i.e. loans advanced at sowing and repaid at harvesting.

Loans were also called after the periods stipulated for their repayment (*Deyam-riṇe*, IV 3.47), *e.g.* *sāṁvatsarika*, loan for a year (IV.3.50); *āvarsamaka* loan for six months (IV.3.49).

There is mention of loans to be repaid in particular seasons, *e.g.* *graismaka* (IV.3.49), loan to be paid back in summer, by the full-moon of Ashāḍha marking the close of the financial year. These were probably repaid out of the income from the special crops grown in summer, such as melons, water-melons and vegetables. The next season for repayment was that of the rains (*varshā*), nicknamed as the 'season when peacoks cry' (*kalāpī*); loan stipulated to be repaid at that time being called *kalāpaka* (IV.3.48). In the section on Agriculture we have referred to the rotation of crops known to Pāṇini and Kauṭilya. By looking at it we find that there is a close connection between the *kalāpaka* loans and the crops harvest in the rainy season and therefore called *vārshika*. Pāṇini refers to *aśvatthaka* (IV.3.46) as another euphemism for loans repayable during the rains. Aśvattha was an old Vedic synonym of the asterism Śroṇā found in the *Kāṭhaka Saṁhitā*, text known to Pāṇini (VII.4.38), and from this was derived *aśvatthaka* to denote a loan repayable in the month of Aśvattha or Śrāvaṇā constellation (IV.3.48). The *Kāśikā* explains *aśvattha* as the season when the trees called *Ficus religiosa* bear fruit (*yasmin-aśvatthāḥ phalanti*).

The next season for settling loan accounts from agricultural produce was Agrahāyaṇa, when the crops of the *Hemanta* season are harvested. These crops (called *haimana*

in Kauṭilya) were sown during the rainy season; they are still one of the two principal crops of the year known as *kharīf*, producing rice, pulses, seasamum, maize and millet. Pāṇini mentions such loans as *āgrahāyaṇika* (also *agrahāyaṇaka*, IV.3.50), which were to be repaid on Āgrahāyaṇī, the Full-moon day of the month Agrahāyaṇa. It incidently shows that the month was reckoned to close on the full-moon day, for it would be natural to fix the period of repayment in terms of full and not half-months. We may thus understand how a *daśaikādaśa* debt contracted in the month of Śrāvaṇa, to meet the expenses of sowing the rainy crop, with stipulation to be repaid on the Agrahāyaṇī day would be called *pañchaka*, on account of the interest-bearing period being five months.

The other important crop was *vāsantika* harvested in the spring season. This crop is now called *rabī*, with barley, wheat, and oil-seeds as its main produce. On account of its association with barley and its straw, the season itself was nicknamed *yava-busa*, and Pāṇini refers to loans due for repayment at this time of the year as *yava-busaka* (IV.3.48).

It appears that the ten-rupee loan referred to by Pāṇini in the phrase *daśaikādaśa*, became later the norm. By the time of Kātyāyana we find that *daśārṇa*, a loan of ten rupees, had become a regular linguistic expression (VI.1. 89.8; III.69). The ten-rupee loan still continues to be the basis of petty agrarian loans under the name of *das-ke-bārah* (ten-for-twelve system). Kātyāyana also mentions special loans like *vatsatarārṇa* 'contracted for purchasing a young bull'; *kambalārṇa*, 'loan for buying a blanket of standard size', which according to Pāṇini was manufactured out of a *kambalya* measure (five seers) of wool; and *vasanārṇa*, loan for buying cloth. We should understand *vasana* as a cloth of standard measurement, weight and price so that it could be used as a unit of exchange in such transactions as envisaged in *sūtra* V.1.27 (purchased for one *vasana*). *Vasana*

was most likely the standard *śāṭaka* cloth mentioned by Patañjali as costing, one *kārshāpaṇa* each (V.1.21 ; II.346).

CORPOREAL INTEREST—According to Gautama there were six special forms of interest, *viz.* compound interest, periodical interest, stipulated interest, corporeal interest, daily interest, and use of a pledged article (*Gautama Smṛiti*, XI.34-35). Of these Pāṇini knows of periodical interest as in *daśaikādaśa* ; stipulated interest as in *pañchaka*, *saptaka* ; compound interest as in *pravṛiddha* (VI.2.38) ; and use of pledged article as in IV.4.89. A reference to corporeal interest may be traced in *sūtra* II.3.34 (*Akartary-ṛiṇe pañchamī*) intended to regularise the formation of such linguistic expressions as *śatād baddhaḥ*, *i.e.* 'bound for a debt of one hundred'. We know it from Kauṭilya that free persons pledged or mortgaged themselves to repay debts contracted by them ; this custom was also known in Pāṇini's time.

USE OF A PLEDGE—Pāṇini knows of this form of interest in *sūtra* IV.4.89, which refers to *dhenushyā*, as a cow whose milk was pledged to the creditor for satisfaction of the loan advanced by him (*yā dhenur-uttamarṇāya ṛiṇapradānād dohanārthaṁ dīyate sā dhenushyā*, *Kāśikā*).

MAHA-PRAVṚIDDHA—(VI.2.38). Pāṇini has cited the formation *mahā pravṛiddha* for its particular accent. But the word denotes the limit of interest (*vṛiddhi*) allowed on a loan. Manu says that the maximum accumulated interest should not exceed the principal sum (VIII.150). Kauṭilya directs that if the interest is allowed to pile up owing either to the absence abroad of the creditor or deliberate intention, the amount payable shall be equal to twice of the principal sum (*mūlya-dviguṇa*, *Artha.* III.11, p. 174). This is also endorsed by Śukra stating that the debtor shall not be required to pay more than twice the principal sum in discharge of his debt and interest (IV.5.631-2). Thus the maximum limit of accumulated interest was a sum equal to the principal ; and when the original amount of loan, say a hundred *kārshāpaṇas*, had by the adding to it of

compound interest (*pra-vṛiddha*) increased to two hundred *kārshāpaṇas*, the loan was considered to have reached its maximum increment (*mahā-pravṛiddha*).

ĀPAMITYAKA (IV.4.21).—Pāṇini mentions *āpamityaka* as something borrowed with a view to be returned in kind (*vyatihāra*, III.4.19). The term is explained by Kauṭilya as applicable to grain borrowed with a promise to return an equal quantity (*Arth.* II.15, p. 94). The use of this word in connection with the borrowing of grain was as old as the Atharvaveda: 'Whatever grain I have borrowed for eating, may I return to redeem my debt' (*Apamitya dhānyam yaj-jaghās-āham-idaṁ tadagne anṛiṇo bharāmi*, VI.117.8). The *āpamityaka* arrangement was a well-recognised practice of rural economy, with a very ancient origin. Kauṭilya refers in the same context to *prāmityaka*, *i.e.* grain borrowed, but without obligation to return (*sasya yāchanam anyataḥ prāmityakam*, *Arth.* II.15). Pāṇini mentions this as *yāchitaka* (*Apamitya-yāchitābhyāṁ kak-kanau*, IV.4.21).

CHAPTER V

EDUCATION, LEARNING AND LITERATURE

SECTION 1. EDUCATION

Pāṇini's grammar was the outcome of a considerable development of language and literature. That linguistic and literary development was in its turn the product of a suitable educational system amply justified by its results. The *Ashṭādhyāyī* throws valuable light on the evolution of different literary forms and types of compositions, educational institutions, students and teachers, methods of instruction, subjects of study, and works then known—a fact of great importance for the literary history of ancient India. Patañjali supplements Pāṇini's information in many ways.

STUDENTSHIP—The educational system was based upon what is known as the ancient system of *Brahmacharya* (*Tadasya brahmacharyam*, V.1.94) which laid more emphasis on life (*charyā*) than mere learning or instruction. It was based upon a constant personal touch between teacher and pupil bound together by a spiritual tie (*vidyā sambandha*; IV.3.77) living in a common home (*śālā*). The pupil was thus truly the *antevāsī* (IV.3.130) of his *āchārya*. A student was generally called *Brahmachārī* (*Charaṇe Brahmachāriṇi*, VI.3.86). The religious student belonging to the upper three classes of society was known by the special term *varṇī* (V.2.134), a new title unknown in the Saṁhitā and Brāhmaṇa literature. As a pupil, he was called *chhātra* (IV.4.62, *Chhatrādibhyo ṇaḥ*), because his duty (*chhatraṁ śīlamasya*) was to be always at his teacher's service (*guru-kāryeshv-avahitaḥ*) and protect him from harm like an umbrella (*tach-chidrāvaraṇa-pravṛittaḥ*, *Kāśikā*).

Two classes of pupils are distinguished (1) *daṇḍa-Māṇava* and (2) *antevāsī* (*Na daṇḍamāṇavāntevāsishu*, IV. 3. 130). The *daṇḍa-māṇava*, also called by the shorter name *māṇava* (VI.2.69) was a novice, not initiated in the Vedic study (*anṛicha*), as observed by Patañjali (*anṛicho māṇave Bahvṛichaścharaṇākhyāyām-iti*, V. 4. 154 ; II. 444). He was named after his distinctive emblem, a wooden staff which he carried (*daṇḍa-pradhānaḥ māṇavaḥ*, *Kāśikā*). Pāṇini mentions the religious staff of the student as *āshāḍha* (V.1.110), being named after the wood of the *palāśa* tree (*Butea frondosa*) of which it was made. The *Tattvabodhinī*, a late commentary, takes *daṇḍa-māṇavas* to be students without *upanayana* The *Mataṅga Jātaka* refers to a *māṇava* as being of tender age (*bāla*), moving to and fro with a *daṇḍa* and wearing sandals (*Jāt.* IV.379). A class of such young pupils was called *māṇavya* (IV. 2. 42).

Students initiated by teachers of the rank of an *āchārya*, were called *antevāsins*. Pāṇini calls the ceremony of initiation as *āchārya-karaṇa* (I.3.36). This was expressed by the formula *māṇavakam upnayate*. He brings the pupil close to himself as his 'Āchārya'. This is further explained by the *Kāśikā* as *ātmānam āchāryīkurvan-māṇavakam ātma-samīpam prāpayati*, 'converting himself into a teacher he draws close to himself the tender youth as his pupil', The *antevāsin* was thus the *Brahmachārī* proper, wearing a particular uniform consisting of a deer skin (*ajina*, VI.2 194) and a *kamaṇḍalu* (IV.1 71). Patañjali refers to a student marked by the *kamaṇḍalu* in his hand (*kamaṇḍalu-pāṇi chhātra*, I 347), getting honour offered by pious families (I.133, *yājyakulāni gatvā agrāsanādīni labhate*). An *antevāsī Brahmachārin* was considered to be a full-fledged member of his school called *Charaṇa*, and this bond of comradeship applying in common to all fellow-students was expressed by the phrase *sa-brahmachārī* (VI.2.86).

THE PUPIL'S DUTIES—The Brahmachārī was bound to his teacher by a spiritual relationship (*vidyā-sambandha*, IV.3.77), not less real than blood relationship (*yoni-*

sambandha). Pāṇini refers to the teacher as *anūchāna*, 'one who expounds the texts' (III.2.109), and also *pravachanīya*, 'one who orally imparts instruction' (III.4·68, *pravachanīyo guruḥ svādhyāyasya, Kāśikā*) ; and the pupil as *śuśrūshu*, 'one who intently listens to the words of his teacher' (I.3.57; III.2.108). They were always close to each other (*upasthānīya*, III.4.68), the teacher to be served by the pupil (*upasthānīyaḥ sishyeṇa guruḥ, upasthānīyo' ntevāsī guroḥ, Kāśikā*). Sometimes the father acted as teacher to his son, the pupil being then called *pitur-antevāsī* (VI.3.23). Pāṇini refers to *āchārya-putra* along with *rāja-putra* and *ṛitvik-putra* (VI.2. 133), all three standing on the privileges of their fathers. The teacher's son was for the pupils like the teacher himself (Kātyāyana, *guruvad guru-putra iti yathā*, I.1.56.1 ; *Bhāshya*, I. 133).

TEACHERS—Pāṇini mentions the following classes of teachers : (1) *Āchārya*, (2) *Pravaktā*, (3) *Śrotriya*, and (4) *Adhyāpaka* (II.1.65). The *Āchārya* was of the highest status. By the particular raligious ceremony of *upanayana*, he became *āchārya* (*āchārya karaṇa*, 1.3.36), and the student his *antevāsī*. This was expressed in the language as *māṇavakam upanayate*. The *Atharvaveda* puts it clearly thus : 'the *āchārya* by drawing the pupil within himself as in a womb, gives him a new birth' (*āchārya upanayamāno Brahmachāriṇaṁ kṛiṇute garbhamantaḥ*, XI.5.3). The close association of a teacher and his pupil is shown by the practice of naming the pupil after the *āchārya*. This is expressed by Pāṇini in the *sūtra Āchāryopasarjanaś-chāntevāsī* (VI.2.36 ; VI.2.104), 'the *antevāsī* is known after his teacher', *e. g. Āpiśala, Pāṇinīya*, the pupils belonging to the schools of Āpiśali and Pāṇini. Such founders of Schools distinguished as *āchāryas*, e. g. Achārya Sākaṭāyana, Āchārya Pāṇini represented the highest academic degree and distinction.

Pravaktā : The *pravaktā* appears to be a teacher who was an exponent of the traditional sacred texts, or *prokta* literature, under the general direction of an *āchārya*. The three classes of teachers, *pravaktṛi, śrotriya* and *adhyāpaka*,

in *sūtra* II.1.65, seem to be mentioned in the order of their precedence in the educational system.

Śrotriya: Pāṇini defines a *śrotriya* teacher as one who could recite the *Chhandas* or Veda *Śrotriyaṁś-chhando' dhīte*, V.2.84). He specialized in committing to memory the Vedic texts in the various forms of recitations (*pāṭha*), as *saṁhitā*, *pada*, *krama*, *etc.* The literary apparatus for conserving the Vedic texts without change of a syllable or accent had been perfected several centuries before Pāṇini, who mentions students called *kramaka*, who specialized in memorising the *krama* text (IV.2.61), and *padaka*, the *pada* text of the Vedas. Teachers who instructed such pupils were themselves named after the mode of recitation they had mastered (*tad-veda*), e.g. *kramaka*, *padaka*, 'knowers of the *krama* and *pada* texts.'

Adhyāpaka: The *adhyāpaka* (II.1.65) seems to have been a teacher entrusted with the teaching of secular and scientific treatises, whose later designation *upādhyāya* is often mentioned in the *Mahābhāshya*

DISAPPROVED PUPILS—Several terms express the censure attaching to students who misused their privileges or contravened the rules proper for them, e.g. *tīrtha-dhvāṅksha*, *tīrthakāka*, 'fickle as a crow' in changing his teachers and schools too frequently (II.1.41 with *Bhāshya* I.391, *yo gurukulāni gatvā na chiraṁ tishṭhati sa uchyate tīrtha-kāka iti*); *khaṭv-ārūḍha*, 'a pupil who takes to the luxury of a householder by sleeping on a cot' (*Khatvā kshepe*, II.1.26).

In *sūtra* VI.2.69 (*Gotrāntevāsi-māṇava-Brāhmaṇeshu kshepe* Pāṇini refers to both junior (*māṇava*) and senior (*antevāsī*) students who joined their schools under motives deserving of censure, e.g. *bhikshā māṇava*, 'a novice attracted to the school for its benefit of free boarding' *bhikshāṁ lapsye' hamiti māṇavo bhavati*, *Kāśikā*). The *Vālmīki Rāmāyaṇa* refers to the *māṇavas* of the Kaṭha-Kālāpa Schools as running after delicacies of food (*svādu kāmāḥ*) given to

laziness (*alasāḥ*), and avoiding due service to the teacher under pretext of study (*Ayodhyākāṇḍa*, 32.18). As instances of elderly students joining the teacher with such malafide motives, Patañjali cites *kambala Chārāyaṇīyāḥ*, pupils joining the school of *Chārāyaṇa* with an eye on its blankets; *odana-Pāṇinīyāḥ*, pupils joining the school of Pāṇini for its worldly advantages, such as provision of rice; *ghrita-Raudhīyāḥ*, pupils joining the school of Raudhi for its provision of butter (*Bhāshya* I.1.73; I.190). To these examples, the *Kāśikā* adds a worse case, *e.g.* *kumārī-Dākshāḥ*, pupils joining the school of Daksha for its access to girls (as co-students).

In the above examples *Chārāyaṇa* is cited by Kauṭilya as an ancient author of *Arthaśāstra*, and may be identified with the great minister of king Prasenajit of Kosala. Similarly Raudhi was a junior contemporary of Pāṇini himself, as shown by the example *Pāṇinīya-Raudhīyāḥ*, in which the names are cited in a chronological order (*Kāśikā*, VI.2.36; also *Bhāshya*, IV.1.79; II.233).

NAMING OF STUDENTS—Students derived their names from three factors, *viz.* (1) name of the subject, or treatise of study (*tadadhīte*); (2) name of the Vedic School (*charaṇa*) to which they belonged; and (3) name of the teacher under whom they were studying, or whose works they studied.

As examples of (1) Pāṇini mentions *yājñika* (IV.3.129) and *vaiyākaraṇa* (VI.3.7), 'students of the sacrificial ritual and grammar' respectively. Amongst other students taking up special courses, Pāṇini refers to students of *Kratu* or *Soma* sacrifices (IV.2.60), e.g. *Agnishṭomika*, *Vājapeyika* (*Kāśikā*); and to students specialising in the *Anubrāhmaṇa* literature and thence called *Anubrāhmaṇī* (IV.2.62); and others devoted to Vedic recitation such as *Kramakāḥ*, *Padakāḥ* mentioned above (IV.2.61).

Students were also named after the special seasonal courses which they were pursuing. For example, the books

that were taken up for study in the *Vasanta* (spring) season were also known as *Vasanta*, and the student who was reading that treatise or course at the assigned time classed as *Vāsantika* (*Vasantādibhyash-ṭhak*, IV. 2. 63, *vasanta-sahacharito'yaṁ grantho vasantas-tam adhīte*). We learn from the Smṛitis that the *vasanta* session in colleges was inaugurated on the *Vasanta-pañchamī* day in the month of Māgha, and the course mainly consisted of Vedāṅga texts (*Manu*, IV.98). Courses were similarly offered for the other seasons like *Varshā*, *Śarad*, *Hemanta* and *Śiśira*, and the students of these short term courses were then called *Vārśika*, *Śāradika*, *Haimantika* any *Śaiśirika* (*Gaṇa-pāṭha* to IV.2.63). These seem to be planned on the lines of modern Summer schools.

NAMING OF VEDIC STUDENTS—Students were called after the names of the Chhandas works then studied in the different recensions or *Śākhās*, in the Vedic schools (*charaṇas*). According to Pāṇini the names of Chhandas works and the Brāhmaṇa texts attached to each *Śākhā* were not used as current except with reference to the students or persons learned in them (*Chhando-Brahmaṇāni cha tadvishayāṇi*, IV.2. 66, under the context *Tadadhīte tadveda*). The grammatical form undergoes a double process. For example, the original teacher (*pratyaksha-kārī*, IV.3.104.1) Kaṭha was the promulgator of a Chhāndasa *Śākhā* text. The relationship between Kaṭha and his work was first expressed by a suffix taught under *Tena proktam* (IV.3.101). To the word thus formed was added a second suffix to denote a student studying that text. In practice the second affix denoting the student was elided (*Proktāl luk*, IV.2.64), with the result that the name of the *Śākhā* and the name of the Brāhmaṇa work always pointed to the students studying them. This position is emphasized by the fact that the names of Vedic texts could not be used alone except in relation to their students, *e.g.* *Kaṭhāḥ*, the students of the *Kaṭha Śākhā*, promulgated (*prokta*) by the teacher Kaṭha (*Kaṭhena proktam adhīyate*). The word Kaṭha which ordinarily should have

been the name of the book was reserved to denote the entire body of those students and teachers who devoted themselves to its study (*adhīyāna*) and attained proficiency therein (*tad-veda*). The Kaṭhas stood for a real school. The same principle of naming held good for hundreds of other Vedic *Śākhās* or Saṁhitās and Brāhmaṇas, which had then become established for long not merely as books, but as institutions with a fellowship of teachers and pupils devoted to their study. This is the main purport of the important *sūtra Chhando-Brāhmaṇāni cha tadvishayāṇi*. The text of a Vedic *Śākhā* would grow into a living institution and spread into offshoots claiming numerous teachers and students within its fold. The original teacher was the nucleus round whom there grew up an appropriate literature of exposition like the *Brāhmaṇas*, to which contributions were made by teachers and pupils of successive generations, expanding their literary heritage. The *Charaṇa* began as an educational institution following a particular *Śākhā* text; in course of time it developed its full literature comprising *Brāhmaṇa*, *Araṇyaka* and *Upanishad* texts, *Kalpa* or *Śrauta Sūtras* (cf. *Purāṇa-prokteshu Brāhmaṇa-Kalpeshu*, IV.3.105), and later on even its *Dharmasūtra* to which Pāṇini refers in the *sūtra Charaṇebhyo Dharmavat* (IV.2.46). This represented its normal evolution, but there were many subsidiary schools confined to one or more classes of texts, and justifying their activity by even a Sūtra text (*sūtra-charaṇa*). A good number of the names of these Vedic schools, or, which is the same thing, of their students, are preserved in the *Ashṭādhyāyī*, constituting a rich record of the Vedic literature existing before Pāṇini, which will be noticed later.

Under the third category were scholars studying the newly discovered scientific treatises, and thus known after the names of the teachers who had composed them (IV.2.64). For example, Śākaṭāyana and Āpiśali were two great Āchāryas who lived before Pāṇini. They were the founders of different grammatical systems, named after them, e.g. *Āpiśala*, the work of Āpiśali, whose students also were called

Āpiśalas. Although the mode of indicating the students of such secular works, was grammatically identical with that for the students of Chhandas works, the fact is that such names as Śākaṭāyanīya and Pāṇinīya, as applied to a student, indicated his allegiance to one particular study, rather than to a broad literature such as that of a Vedic school. From the point of view of educational organisation the *Charaṇas* were the larger schools promoting the study of the entire Vedic literature and based on a fellowship of teachers and pupils, as distinguished from the more restricted grammatical schools confined to the study of a particular treatise or branch of learning and functioning independently of the *Charaṇas*.

EDUCATION OF WOMEN—Both Pāṇini and Patañjali refer to women admitted to Vedic study in the *Charaṇas*. The term *jāti* in *sūtra* IV.1.63 (*Jāter-astrī-vishayād-ayopadhāt*) includes the female members of *gotras* and *charaṇas* (*gotraṁ cha charaṇāni cha, Bhāshya* II.225). Thus a woman student of the Kaṭha school was called *Kaṭhī*, and of the Ṛigvedic Bahvṛicha school *Bahvṛichī*. It appears that the three principles of naming the male students applied equally to the female students also. For example, Kātyāyana and Patañjali refer to Brāhmaṇa women students studying the grammatical system of Āpiśali and thence called *Āpiśalā Brāhmaṇī* (*Pūrvasūtra nirdeśo vāpiśalam adhīta iti*, IV.1.14, *vār*. 3). Kātyāyana here refers to a rule of a previous writer, in all probability Āpiśali himself. Similarly *Pāṇinīyā Brāhmaṇī* (*Kāśikā* on IV.2.64). Female students were also admitted to the study of Mīmāṁsā, *e.g. Kāśakṛitsnī*, a female student studying the Mīmāṁsā work of Kāśakṛitsni, son of Kāśakṛitsna (*Bhāshya*, II.206). Pāṇini refers to female students as *Chhātrī* and their hostels *chhātri-śālā* (VI.2.86). The wife of an *āchārya* is referred to as *āchāryānī* (IV.1.49), but *āchāryā* was the title of female teachers corresponding in status to an *āchārya* (counter-example in the *Kāśikā*). Patañjali refers to the female teacher Audameghyā and her pupils (IV.1.78;

II.230). The term *Kaṭhī-vrindārikā*, the foremost female student of the *Katha Śākhā*, points to the success of women as students of Vedic schools. Patañjali refers to a female student as *adhyetrī* and a female novice as *māṇavikā* (IV.193 ; II.249).

SCHOOL REGULATIONS—The *antevāsī* was to lead the life of regular Brahmachārī in the house of his teacher. Special hostels for female students had also come into existence (*chhātri-śālā*).

Pāṇini refers to the working days of the school as *adhyāya* (III.3.122 ; *adhīyate' sminn-ityadhyāyaḥ*, *Kāśikā*). On this etymology was based the opposite word *anadhyāya* denoting holidays, about which elaborate instructions are given in the *Gṛihya-sūtras*. These rules are anticipated in Pāṇini's *sūtra*, *Adhyāyiny-adeśa-kālāt* (IV.4.71), showing that study was to be suspended outside its time and place. It is significant that Pāṇini should have found it necessary to mention students contravening the proper rules by carrying on their study in unapproved places, on which the *Kāśikā* cites *śmāśānika*, *chātuśpathika*, 'one who reads in a cremation-ground or a market-place', and on non-working days, *e.g.* *chāturdaśika*, *āmāvāsyika*, *i.e.* studying on *Chaturdaśī* and *Amāvāsyā* days which were set apart for religious purposes like the *Darśa-Paurṇamāsa* and not for study (*Kāśikā* on IV.4.71). The opprobrium implied in these terms lasted only for the time being.

Students belonging to the same school were called *sabrahmachārins* (*Charaṇe Brahmachāriṇi*, VI.3.86), and those studying under a common teacher *satīrthya* (*Samāna-tīrthe vāsī*, IV.4.107 and VI.3.87, *Tīrthe ye*; *Kāśikā*, *samānopadhyāya*).

In schools following varied curricula, some kind of grouping in the form of classes was inevitable. This grouping was of two kinds: firstly, grouping of such students as were studying the same subjects, and secondly forming

bigger congregations of such different groups occasionally for some common purpose, provided their subjects of study were allied *Adhyayanato' viprakṛishṭākhyānām*, II.4.5). For example, Pāṇini mentions students of the *Krama-pāṭha* forming the class *Kramakāḥ*, and of the *Pada-pāṭha Padakāḥ* (*Kramādibhyo vun*, IV.2.61). Instruction in *Pada*-recitation immediately preceded that of *Krama*. The two classes functioned separately in the school-routine, but on special occasions were grouped as a joint class called *Padaka-Kramakam*, a compound name in singular number. For a common social programme like feasting, the teacher would direct the two allied classes to go together, e g. *Padaka-Kramakam gachchhtu*, i.e. 'Let the *Padaka* and *Kramaka* students go'. The *Kāśikā* cites *Kramaka-Vārttikam*, showing that after completing the *Krama* recitation of the Veda, the students took up *Vritti* or grammatical lessons. Patañjali also states that in his time the custom was for students to be trained first in Vedic recitation; the study of grammar therefore must have followed.

GRADATION OF COURSES—The grouping of classes as shown above points to a system of planned courses. The various categories of students like *māṇava* (the novice), *antevāsī* (the full-fledged Brahmachārī), and *charaka* (the advanced visiting scholar, IV.3.107) and of teachers like *adhyāpaka*, *pravaktā* and *āchārya*, point to different stages in the academic career.

Pāṇini has noticed the linguistic forms indicative of stages in academic progress. The stages of secular studies were expressed in terms of the particular treatise studied (*Granthānatādhike cha*, VI.3.79), *e.g.* 'studies the science of astrology upto the chapters *Kalā* and *Muhūrta*, *sakalam, samuhurtam jyautisham adhīte*; or reads grammar upto the treatise called *Saṅgraha* (*sasaṁgrahaṁ vyākaraṇaṁ adhīte*, *Kāśikā*). The completion of a course is indicated by the term *anta-vachana* (II.1.6), i e. study upto its concluding chapter, for which older examples were, *sāgni adhīte*, 'he completes his studies upto the text called *Agni* (Books V-IX

of the *Śatapatha Brāhmaṇa* dealing with the Fire ritual); or *seshṭi-paśu-bandham*, upto the text called *Ishṭi* (Books I-II of the *Śatapatha* dealing with the *Ishṭis* or New and Full-Moon sacrifices), and *Paśu-bandha* (Books III-V of the *Śatapatha*, dealing with the Soma sacrifices). Completion of a particular topic of study was called *vritta* (VII.2.26, *Neradhyayane vrittam*); *e.g.*, in reply to the question 'How much has Devadatta read?', it was stated: *Vritto guṇo Devadattena, Vrittaṁ pārāyaṇaṁ Devadattena*, 'Devadatta has finished the study of the topic called *guṇa* (*i.e.* strengthening of vowels in grammatical formations); or *pārāyaṇa* (Vedic recitations). Two linguistic forms were current to indicate the progress of studies, either by topics or the prescribed books completed.

As already stated (IV.2.63), the syllabus for the year was divided according to the seasons. A particular course of study was prescribed for each season, and the studies associated with each were named after it, *e.g. Vasanta*, 'Spring Lectures', *Grīshma*, 'Summer School', *Varshā*, 'Monsoon Lectures', *Śarad*, 'Autumn Lectures', etc.

The system of short term courses involving a study of special topics or parts of a subject was also in vogue, as implied in the expression *Tadasya brahmacharyam* (V.1.94). It regulates the names of students according to the period for which they had got themselves admitted *e.g. māsika Brahmachārī*, a student for a month; similarly *ardha-māsika*, a student for half a month, and *sāṁvatsarika*, a student for one year (*Kāśikā*). Kātyāyana mentions *mahānāmnika* students, those who restricted themselves to the study of *mahānāmnī* verses (*Mahānāmnyo nāma richo vrataṁ tāsām charyate*, *Bhāshya* II.360); similarly *ādityavratika*, a student of *Ādityavrata*. The *Gobhila Gṛihyasūtra* refers to these special vows of studentship (III.1.28; III.2.1-9). The *Mahānāmni* vow was alternatively called *Śakvarī vrata*. According to the *Rauruki Brāhmaṇa*, the *Mahānāmnī* verse was regarded as the highest religious study aimed at by students in that ancient system. The mothers wished

their new-born babes: 'O darlings, may ye complete the vow to master the *Śākvarī* verses !'[1]

The completing of study was called *samāpana* (*Samāpanāt-sapūrvapadāt*, V.1.112), *e. g.* *chhandaḥ-samāpanīya*, *vyākaraṇa-samāpanīya*, studentship with the avowed object (*prayojana*) of mastering prosody or grammar.

PEDAGOGY—The teacher expounding a subject was called *ākhyātā*. Tution in the prescribed manner for acquiring knowledge was *upayoga* (*niyama-pūrvakaṁ vidyā grahaṇam*, *Kāśikā* on I.4.29). According to the commentator occasional or desultory listening to a subject, as dramatic song did not come under the category of *upayoga*, e. g. listen to a song from an actor' (*naṭasya śriṇoti*). The teacher in his capacity of expounding to his pupil the religious texts of *svādhyāya* was called *pravachanīya* (III.4.68, *pravachnīyo guruḥ svādhyāyasya*). This term was also applied to the subject expounded as *pravachanīyo guruṇā svādhyāyaḥ*. This has reference to the teacher mentioned by Pāṇini as *pravaktā* ((II.1.65). Pāṇini refers to another class of teachers called *anūchāna* (III.2.109), who according to Baudhāyana discoursed on the Vedāṅgas (*aṅgādhyāyī anūhānaḥ*, *Baudhāyana Gṛihyasūtra*, 1.4).

Preparations for study with a teacher were called *anupravachanīya* (V.1.111). A teacher was respectfully approached (*adhīshṭa*) by the father or guardian with request to undertake the instruction of his ward: 'I pray that you be pleased to admit this tender youth to your instruction' (*adhīchchhāmo bhavantaṁ māṇavakaṁ bhavān upanayet*, *Kāśikā* on III. 3. Kāśikā on III. 3. 161). The teacher was named after the period of his instruction (*tam adhīshṭaḥ*, V.1.80), *e. g.* *māsiko adhyāpakaḥ*, teacher for a month' (*māsam adhīshṭaḥ satkṛitya vyāpāritaḥ*).

[1] अथ ह रौरुकि ब्राह्मणं भवति। कुमारान् ह वै मातरः पाययमाना आहुः शाक्वरीणां व्रतं पारयिष्णवो भवतेति। गोभिलगृह्यसूत्र,, III 2-7-9

The life of the student was subjected to rigorous discipline. The difficulty of study is referred to in such expressions as *kashṭo' gniḥ, kashṭaṁ vyākarṇam, tatopi kashṭatarāṇi sāmānī*, 'hard to master is the Fire ritual (*Śatapatha*, Bks. VI-IX); so is Grammar; but still more difficult are the *Sāman* songs' (*Kāśikā*, VII.2.22).

It is interesting to read in the *Ashṭādhyāyī* about teachers who were strict unrelenting disciplinarians (*dāruṇādhyāpaka, ghorādhyāpaka*). As against them were teachers described as perfect (*kāshṭhādhyāpaka*) and good (*svādhyāpaka*) (*Pūjanāt pūjitam anudāttaṁ kāshṭhādibhyaḥ*, VIII.1.67). Retired teachers were called *prāchārya* and Old Boys *prāntevāsī* (*Bhāshya*, II.2.18; I.416).

PĀRĀYAṆA (VEDIC RECITATION)—The method of study varied with the nature of its subject. Vedic texts had to be learnt by repetition; the master of such texts was called a *Śrotriya* (V.2.84). Recitation of Vedic texts without attending to meaning was called *pārāyaṇa*; one engaged in such study was called *pārāyaṇika* (*pārāyaṇam vartayati* V.1.72). Students gifted with strong memory so as to learn the text by heart without effort (*akṛichchhra*) were indicated by such expressions as *adhīyan pārāyaṇaṁ*, 'facile in recitation,' *dhārayan Upanishadam*, 'memorising the Upanishad' (*Iṅ-dhāryoḥ śatrakṛichchhriṇi*, III.2.130).

There are several *sūtras* relating to details about recitation. Firstly, there is provision to indicate the number of repetitions (*adhyayana*) required to memorise the text (V.1.58), *e. g. pañchaka adhyayana*, reciting (*āvṛitti*) a text five times, repeating its words five times (*Pañcha vāra*), and in five ways (*pañcha rūpa, Kāśikā*); similarly *saptaka, ashṭaka, navaka*, referring to higher numbers. Secondly, there were appropriate phrases to express faults in recitation, by way of an individual word pronounced wrongly (*padaṁ mithyā kārayate*), or accents in a faulty manner (*svarādi dushṭam*), and repeating the mistakes (*asakṛit uchchārayati*; *Mithyopapadāt kriño' bhyāse*, I.3.71).

Finally, students were tested with reference to the number of mistakes committed in recitation (*Karmādhyayane vṛittam*, IV.4.63-64), *aikānyika*, *i.e.* one who at the time of examination (*parīkshā-kāle*) commits one mistake (*Kāśikā*); similarly *draiyanyika*, *traiyanyika*, and so on up to ten The Sanskrit words for numerals up to ten consist of two syllables. But Pāṇini also teaches the manner of indicating the lapses when the numeral is of more than two syllables (*bahvach*, IV.4.64), *e.g.* *dvādaśānyika*, *trayodiśānyika*, *chaturdaśānyika*, one with 12, 13, or 14 mistakes in recitation. This method of oral teaching and committing texts to memory has amply justified itself by the conservation and transmission of India's sacred learning through the ages before it was stored up by writing in manuscripts. The secret of success of this oral tradition (*śruti*) lies in the faith that sacred words by themselves have a value and should be treasured up in memory as abiding stores of knowledge.

Strict regulations characterised the *pārāyaṇa* of Vedic texts by *pārāyaṇika* students observing the vow (*pārāyaṇaṁ vartayati*, V.1.72). Naturally a particular mode of recitation was selected at one time, such as *saṁhitā pārāyaṇa* (*nirbhuja*), *pada-pārāyaṇa* (*pratṛiṇṇa*) and *krama pārāyaṇa*. Each school had carefully computed the extent of its Vedic text for the purpose of *pārāyaṇa*; the *Charaṇa-vyūha-pariśishṭa* of *Śaunaka* states the *pārāyaṇa* text of Ṛigveda to comprise 10,580 verses (I.10).

The student commenced the *pārāyaṇa* with a formal ceremony described in the *Gṛihya* texts of Bodhāyana and others. He slept on a platform (*sthaṇḍila*) as part of his vow, for which he was marked as *sthāṇḍila* (*Sthāṇḍilāch-chhayitari vrate*, IV.2.15). He also observed the vow of silence during *pārāyaṇa*, being then known as *vāchaṁyama* (*vāchi yamo vrate*, III.2.40). He was also to restrain himself in the matter of food, eating sparingly and taking only water, milk or fruits according to his physical endurance, *e.g.* if he took only milk he was spoken of as *payo vratayati* (III.1.21), 'observes the vow by living only on milk'. Besides the above regu-

lations Mahidāsa hints at the fact that students often undertook repeated courses of *pārāyaṇa* recitation, and the *Kāśikā* mentions *dvaipārāṇikaḥ* as an illustration (IV.1.88). *Pārāyaṇa* could also be observed in later life.

INTELLECTUAL APPROACH—This mechanical method of learning by rote gives only a limited picture of the educational system. Yāska sounds a note of protest against too much emphasis being laid on mere memorising of words as means of learning, and Patañjali compares it to dry fuel thrown in a place where there is no fire to ignite it[1] (*Bhāshya* I.2) Pāṇini's own work the *Ashṭādhyāyī* was the result of much hard and scientific thinking applied to the study of words and their significance by analytical methods. The *Nirukta* of Yāska and the grammatical works of Śākaṭāyana and Āpiśali were similar products of the scientific mind. The original treatises produced as a result of creative intellectual activity are distinguished by Pāṇini as *upajñāta* and as being different from the commentaries or expositions (*vyākhyāna*) of older texts.

Pāṇini uses a number of terms to indicate the various methods employed in learning and education, *e.g.* extempore composition at the spur of the moment (*prakathana*, I.3.32); illuminating interpretation (*bhāsana*, I.3.47); true exposition of knowledge (root *vad* in the sense of *jñāna*, I.3.47, *samyag-avabodha*); presentation of divergent opinions (*vimati*, I 3.47, *vipralāpa*, I.3.50); enunciation of one's doctrines ((*pratiśravaṇa*, VIII 2.99; or *pratijñāna*, *e.g* *nityaṁ śabdaṁ saṁgirate*, 'he affirms that word is eternal', I.3.52); seeking after knowledge (*jijñāsate*, I.3.57). All these terms are indicative of *vāda* (debate) and *vivāda* (discussion) as a method of learning and approach to truth. This method of education is amply testified to in the Upanishads and also in Buddhist literature. Again, Pāṇini also refers

[1]यदधीतमविज्ञातं निगदेनैव शब्द्यते ।
अनग्नाविव शुष्कैधो न तज्ज्वलति कर्हिचित् ॥

to judges at the time of disputations (*madhye kṛitya*, I.4.76), silencing of an opponent (*nivachanekṛitya*, I.4.76) and restraining him by exposing his views (*nigṛihya anuyoga*, VIII.2.94), the words *nigraha* and *anuyoga* being regular terms of Nyāya dialectics. Forms of language to arrive at the truth by the process of reasoning (*vichārya-māṇānām*, VIII.2.97; *pramāṇena vastu-parīkshaṇam*, *Kāśikā*), and firmly establishing one's own position (*jñānam*, *prameya-niśchayaḥ*, I.3.36) are also referred to. The person who came out triumphant in the debate was the recipient of high honours (*sammānana*, I.3.36), and he was from that time regarded as the leading exponent of that subject or school. As an example the *Chāndravritti* mentions Pāṇini himself as leading in the science of grammar (*nayate Pāṇinir-vyākaraṇe*, I 4.82). Knowledge transmitted from teacher to pupil benefited by its expansion (*tāyana*, I.3.38) in the process. We know how the treatise of Pāṇini himself was enriched by his brilliant successors Kātyāyana and *Patañjali*. *Sometimes it so happened* that founders of schools became known not so much by their own works as by those of their pupils or followers shedding lustre on them. Pāṇini himself mentions the names of Kalāpin and Vaiśampāyana as teachers of this type whose discourses were so fruitful that they gave rise to different schools of thought, all within the domain of the subject-matter of those discourses (*Kalāpi-Vaiśampāyanāntevāsibhyaścha*, IV.3.104; Dr. R. K. Mookerji, *Ancient Hindu Education as Revealed in the Works of Pāṇini, Kātyāyana and Patañjali*).

CHARAṆA, THE VEDIC SCHOOL—*Charaṇa* represents the type of educational institution in which one particular recension or *Śākhā* of the Veda was studied by a group of pupils called after the original founder and organized as a corporate body (*charaṇa-śabdaḥ śākhānimittikaḥ purusheshu vartate*, *Kāśikā*, II.4.3). The various branches of sacred literature were developed under the aegis of the *Charaṇa* organization, *viz* the Chhandas text which was originally enounced by a *Ṛishi*, its Brāhmaṇa embodying the litur-

gical, religious, and philosophical doctrines developed in relation to *yajña*, and later on the Kalpa works dealing with systematised sacrifical ritual better known as Śrautasūtra. This elaboration of literary types had gone on in the *Charaṇas* prior to the time of Pāṇini (cf. *sūtras* IV.2.66; IV.3.105). In fact different Vedic *Śākhās* and *Brāhmaṇa* works were considered such an integral constituent of a *Charaṇa* that they were thought of only in terms of the students who studied them and who actually constituted the *Charaṇa*. The *Śākhās* no longer remained mere books, but developed into institutions comprising under their aegis such works as the *Brāhmaṇas*, *Āraṇyakas* and *Śrauta-sūtras*, etc. Pāṇini speaks of a still wider basis, *viz.* the development of a new type of literature represented in the *Dharmasūtras* (*Charaṇebhyo dharmavat*, IV.2.46; *Charaṇād-dharmāmnāyayoḥ*, *Vār.* on IV.3.126). This marked a further stage in the evolution of the *Charaṇa*, and also marked its final phase, because at the time as *Dharma* or Law was introduced in the curricula of a *Charaṇa* many especialised branches of learning were coming into existence independently of and outside the organisation of the Vedic schools. The *Nirukta* of Yāska and the grammar of Pāṇini are examples of this later development. It is not possible to trace their association with one particular Vedic school. In fact we owe to Patañjali the significant statement made with regard to the *Ashṭādhyāyī* that it was not attached to any particular Vedic school, but was claimed by all Vedic schools as their common study:

सर्ववेदपारिषदं हीदं शास्त्रम्

(III.1.58; I.400; VI.3 14; III.145).

PARISHAD—Three varieties of *Parishads* were known to Pāṇini, (1) academic, (2) social and (3) administrative. The first kind of *Parishad* was an academy of specialist scholars within the *Charaṇa* whose function was to fix the *Śākhā* text to be adopted by the *Charaṇa* with special reference to its phonetical and grammatical points. Pāṇini

refers to the *Charaṇa-Parishad* in *sūtra* IV.3.123 *Patrādhvaryu-parishadaś-cha*) regulating the term *pārishada* to denote something that appertained to a *parishad* (*parishadaḥ idam*). The *A*chārya along with his academy (*saparishatka āchārya*) greeted the student on his first admission (यक्षमिव चक्षुषः प्रियो वा भूयासमिति सपरिषत्कमाचार्यमभ्येत्य ब्रह्मचारी पठति, *Gobhila Grihya-sūtra*, III.4.28; *Drāhyāyaṇa Gṛihya*. III. 1. 25). Charaka records full details of an academic *Parishad* (Vimānasthāna, VIII.19-20) Patañjali mentions *pārishada* as a work which was the product of a Vedic *Charaṇa* (cf. *Sarva-Veda-Pārishadam*, quoted above). Its earlier variant in the *Nirukta* was *Pārshada* which Yāska mentions as works composed in the *Charaṇas* (*pada-prakṛitīnī sarva-charaṇānāṁ pārshadāni*, *Nirukta*, I.17). Patañjali also gives the form *pārshada* for Pāṇini's *Pārishada* works of the Sātyamugri and Rāṇāyanīya schools of the *Sāmaveda* (*Bhāshya*, I.22). As Durgāchārya explains, the *Pārshada* works were the *Prātiśākhyas* produced in the *parshad* (= *parishad*) of each *Charaṇa*, and dealing mainly with phonetical and grammatical topics.

There were two other kinds of *parishads*, viz. social and administrative The term *pārishadya*, for a member of a *parishad* (*parishadaṁ samavaiti*, IV.4.44) indicates that the *parishad* was a social or a cultural club, something like a *samāja*. The third kind of *Parishad* was an administrative body, as in the expression *parishadadvalo rājā* (V 2.112), 'a king governing with his council of ministers. The term *pārishadya*, one eligible (*sādhu*) for membership of a *parishad* (*Parishado ṇyaḥ*, IV.4.101) takes the *parishad* in the sense of an administrative body. The fact remains that originally the *parishad* began as a body of scholars inside the Vedic schools, which influenced and directed their literary activities and helped in the evolution of those schools.

WORKING OF A CHARAṆA—Pāṇini throws light on the activities and constitution of *Charaṇas* with reference to the following points :

(1) *Name*—As already pointed out, the name of a

Charaṇa was also the name of the students who constituted it. There were two stages in the formation of these names which may have represented actual stages in the evolution of a *Charaṇa*. First came the founder Ṛishi who gave the *Charaṇa* a text as its basis (IV.3.102). Next, the Vedic text attracted to the school students who sought its study. For example, Ṛishi Tittiri promulgated the *Taittirīya Śākhā*, of which the students were also called *Taittirīyas* (*Tittiriṇā-proktam adhīyate*). Grammatically, the term *Taittirīya* in the sense of a text (*Tena proktaṁ*, IV.3 101-102) could not be used by itself; it needed another suffix to indicate its students (*Chhando Brāhmaṇāni cha tad-vishayāṇi*, IV.2.66), but this second suffix did not appear in the formation (*Proktāl luk*, IV.2 64). In practice the word denoting the text did not differ in form from the word denoting its students. It is a curious phenomenon that in forming the names of *Charaṇas*, the first suffix denoting the text (*prokta*) was retained but lost its meaning, whereas the second suffix denoting the students and professors (*adhyetri-veditri*) was dropped but retained its meaning. It may well be that Pāṇini was here summarizing an actual position so as make theory and practice accord with each other. It was the case of an institution deriving its name from the founder, but later signifying the body of scholars and students who belonged to it.

The names of the *Charaṇas* in the *Ashṭādhyāyī* and its *Gaṇa-Pāṭha* are shown later.

(2) *Rise* (*Udaya*) *and Expansion* (*Pratishṭhā*)—A *Charaṇa* was not necessarily bound to a place. For instance, the Kaṭha and Kālāpa *Charaṇas* spread from village to village by their popularity, as Patañjali informs us (*Grāme grāme Kāṭhakaṁ Kālāpakaṁ cha prochyate*, IV.3 101 ; II.315). Pāṇini mentions that the compound names of *Charaṇas* were used in singular when *anuvāda*, 'restatement', was implied (*Anuvāde Charaṇānām*, II.43). The *Kāśikā* says that *anuvāda* is repetition of an already well-known fact (*pramāṇāntrāvagatasyārthasya śabdena saṁkīrtana-mātram anuvādaḥ*). Kātyāyana explains that the linguistic forms intended by

Pāṇini anticipated only the roots *sthā* and *iṇ* in past tense. For this Patañjali cites the forms *udagāt* and *pratyashṭhāt*, referring to the rise (*udaya*) and expansion (*Pratishṭhā*) of two *Charaṇas* jointly, like Kaṭha-Kālāpa, Kaṭha-Kauthuma, Mauda-Paippalāda (*Bhāshya*, II.4.3 ; I.474). A person who already knows the fact of the spread of these schools remarks in the course of conversation, 'The Kaṭha-Kālāpa *Charaṇas* have made such progress and have established themselves so well'. This statement was of the nature of an *anuvādā*, i e. restating what was already a known fact about the popularity of these two schools. The Vedic schools were expanding both geographically and in their scholarly activities, or subjects of learning included within their fold, which is the background of the present *sūtra*.

(3) *Anuvāda* (*Literary Collaboration*)—This term *anuvāda* is different from the term discussed above. The *sūtra Anorakarmakāt* (I.3.49) contemplates some kind of literary collaboration in the matter of recitation amongst different Vedic schools; *e. g. anuvadate Kaṭhaḥ Kālāpasya, anuvadate Maudaḥ Paippalādasya*, i e. the Kaṭha school follows the method of the Kālāpa school in recitation (*yathā Kalāpo' dhīyāno vadati tathā Kaṭhaḥ, Kāśikā*). The Kaṭha and Kālāpa were related to the *Kṛishṇa Yajurveda* and the Mauda and Paippalāda to the *Atharvaveda*. This example points to intellectual co-operation between different *Charaṇas* of the same Veda. Pāṇini names some *Charaṇas* as forming a a collective unit *e. g. Kaṭha-Kālāpāḥ, Kaṭha-Kauthumāḥ, Kauthuma-Laugākshāḥ Mauda-Paippalādāḥ* (*Kārta Kaujapādayaścha*, VI.2.37). Such union of *Charaṇas* must have been due to their cultural affinity, or geographical proximity.

(4) *Enrolment*—The *Charaṇas* were open to admission of students, which Pāṇini mentions as *tad aveta*, 'gets admitted to it' (V 1.134), *e. g. Kāṭhikām avetaḥ*, 'has become a member of the Kaṭha *Charaṇa*' or as the, *Kāśikā* explains it 'obtained the fellowship of the Kaṭha school' (*Kaṭhatvaṁ prāptaḥ*).

The Kaṭha *Charaṇa* as a corporate body (*Charaṇasamūha*), was called *Kāṭhaka*, 'the corporation of the Kaṭha scholars' (*Kaṭhānāṁ samūhah, Charaṇebhyo dharmavat*, IV.2.46).

(5) *Fellowship*—Fellow students belonging to the same *Charaṇa* as their *alma mater* were called *sa-Brahmachārins* (*Charaṇe Brahmachāriṇi*, VI.3.86). Academic fellowship had a social significance. Yājñavalkya refers to the custom of entering the name of a person's *Charaṇa* in legal documents. Patañjali has the following query: '*Kiṁ sabrahmachārī tvam ?*', 'From which School are you ?', implying that a student was known by the school from which he graduated and also in association with other fellows of the same school. This query, he says, may be put in three possible ways: (1) Who were fellows of the same school ? (*ke sabrahmachāriṇaḥ*) ; (2) Whose fellowstudent are you ? (*keshāṁ sabrahmachārī*) ; (3) Who was your fellow-student ? (*kaḥ sabrahmachārī tava*, II.2.24 ; I. 425). These queries bring out the relative academic distinctions of students in life.

(6) *Women Students*—*Sūtra* IV.1.63 (*Jāte-rastrīvishayād-ayopadhāt*) as interpreted by Patañjali shows that a woman could be a member of intellectual fellowships like *Charaṇas* which were socially assuming the status of *jāti* or caste (*Charaṇa* as *jāti* is admitted in *gotraṁ cha charaṇaiḥ saha*). The term *Kaṭhī*, for instance, denoted a female member of the Kaṭha school, an individual regarded as foremost of her class being called *Kaṭha-vrindārikā*, and another deserving of special distinction as *pūjyamāna-Kaṭhī* (II.1.62). The term *Kaṭha-māninī* points to proud honour felt owing to academic lineage as a *Kaṭhī*. *Kaṭhajātīya* and *Kaṭhadeśīya*, understood in the light of Pāṇini V.3 67 (*Īshadasamāptu* etc.) were applied to those who were not full-fledged members of the Kaṭha School, i.e. not endowed with the learning born of academic life therewith but belonging to the fellowship (*jāti*) or the region (*deśa*) of the Kaṭhas.

(7) *Social Honour*—Membership of a *Charaṇa* carried with it social honour and dignity, of which probably some were not slow to take advantage by assuming superior airs

against other persons not possessing that distinction. Pāṇini hints at this sense of pride in the term *ślāghā*, *e.g. Kāṭhikayā ślāghate*, 'he glorifies himself in vanity as a Kaṭha.' At times such vanity would result in the disparaging of others, which Pāṇini refers to as *atyākāra*, e g. *Kāṭhikayā atyākurute*, 'being puffed up as a Kaṭha he looks down upon others', (*Gotra-charaṇāch-chhlāghātyākāra-tadavetешhu*, V.1.134).

(8) *Intellectual Ideal*—The *Charaṇas* were the custodians of the cultural traditions created by generations of their students and teachers. These traditions were recorded in their literature built up through the ages. We have seen how Pāṇini is acquainted with the various types of literature as the output of the *Charaṇas*, *viz.* (1) the Vedic Śākhā texts, (2) Brāhmaṇa works, (3) Kalpa works, (4) the Dharma-sūtras (*Charaṇebhyo dharmavat*, IV.2.46). With the development of the *Dharma-sūtra* or legal literature there set in a process of gradual separation between the secular and scientific studies on the one hand and religious and ritualistic on the other. The *Ashṭādhyāyī* itself is an example of this process at work, which introduced new subjects of study besides those traditionally comprised within the *Charaṇas*. For instance, the *parishads* of the Vedic *Charaṇas* themselves took the lead in promoting such studies, as phonetics, linguistics, grammar, and the like, which later on became independent of Vedic studies and were cultivated in their own schools. The *Pārshada* work of each Vedic school concerned itself with linguistic and grammatical questions which gave scope to the rapid growth of these studies. It is to be remembered that whereas an individual *Charaṇa* specialised in its own text or *Śākhā* of the Veda, and developed its related Brāhmaṇa and Sūtra, the different *Charaṇas* of the same Veda possessed in common their *Pārishada* work or *Prātiśākhya*, conceived as belonging to all the offshoots or branches (*śākhās*) of the same Vedic tree (*Śākhādibhyo yaḥ*', V.3.103 ; *Śākheva śākhyaḥ*).[1]

[1] वृक्षादीनां शाखेवास्य वेदकल्पस्हो ऽ मयवाः शाखाः । शाख्यं शाख्यं प्रतीति प्रातिशाख्यम् । दधिकृत्य कृतं प्रातिशाख्यम् ।

(9) *The Charaṇa as a Saṅgha*—The *Charaṇas* were organized as autonomous bodies making their own rules and regulations as an expression of the democratic ideal in the sphere of learning and education and adopting the method and procedure of the *Saṅghas* in their management. Pāṇini cites the specific instance of the *saṅgha* of students studying the Vedic text of the teacher *Śākala*, and thence called *Śākala* or *Śākalaka* (*Śākalād-vā*, IV.3.128 ; *Śākalena proktam adhīyate Śākalāḥ* ; *teshām saṅghaḥ*). It is obvious that the Śākalas, as also other *Charaṇas*, possessed an individual entity for social, economic or organised life in particular. This is illustrated by the fact that the name *Śākala* was also applied to the legend (*aṅka*) and the emblem or heraldic symbol (*lakshaṇa*) adopted by the School on their seals and documents ; the same word also denoted their separate settlement or campus (*ghosha*).[1]

1 *Sūtras* IV.3.128 (*Śākalād-vā*) as interpreted in the light of IV.3.127 (*Saṅghāṅka-lakshaṇeshv-añ-yañ-iñām aṇ*) ; cf. the examples in *Kāśikā*, *Śākalaḥ aṅkaḥ*, *Śākalam lakshaṇam*, *Śākalaḥ ghoshaḥ* ; *similarly Śākalakaḥ* (Cf. K. P. Jayaswal, *Hindu Polity*, (1924), 1.42).

AGENCIES OF LEARNING—The various agencies in the spread of learning comprised (1) teachers, (2) authors, (3) regular students, (4) travelling scholars (*charakas*), (5) educational institutions, (6) learned assemblies and conferences, (7) discourses, (8) expositions and (9) literature. The cumulative work of these agencies resulted in a nation-wide expansion of education and learning.

IDEALS. The ideals of learning must have played an important part in the moulding of educational activities. Both the teacher and the taught (*āchāryāntevāsinaḥ*) were inspired by the literary and cultural ideals of their age. We get from Pāṇini a graphic picture of the types of literature then developed, *viz.* Chhandas and Brāhmaṇa works, Vedāṅga literature like Kalpa and Vyākaraṇa, secular works and poetry, dramaturgical treatises and stories (IV.3.110-111), *gāthās* and *ślokas* (III.2 23). Students would prepare themselves for the study of one or other of these different classes of literature (*tadadhīte*). In the sphere of teaching, there were different classes of teachers dealing with the several classes of literature, e.g. *āchārya* for the esoteric knowledge of the Veda, *śrotriya* for recitation, *pravaktā* for *prokta* literature, *ākhyātā* imparting religious teaching, *anūchāna* for the Vedāṅgas, and *adhyāpaka* carrying on general teaching work. But from the point of view of scholarly attainments a large number of specialists in each branch of learning were coming into existence. In fact from Pāṇini's account of specialist scholars we learn that each text or subject of knowledge was represented by the learned men who had mastered it (*tadveda*, IV.2.59). For example, there is mention of experts in the various Soma sacrifices (*kratus*), named after the particular ritual which they had mastered, as *āgnishṭomika*, *vājapeyika* (IV.2.60); the reciters of *uktha* and the various

forms of orthoëpic recitations of Chhandas texts, as the *krama-pāṭha* and *pada-pāṭha* (IV.2.61); exponents of the Brāhmaṇa and Anubrāhamaṇa works (IV.2 62), and Sūtra works (IV.2.65) dealing with the several classes of scientific literature. The Vedāṅga literature was represented by its specialists, such as *vaiyākaraṇa*, (grammarians), (VI.3,7), *nairuktika*, (etymologists), and *yājñika*, (experts in Kalpa or ritual) (IV.3 129). Patañjali's elaborate list of works in the *vārttikas* appended to *sūtra* IV.2.60, shows the tendency towards specialization carried to extremes in his time, mention being made of experts in ornithology (*vāyasa-vidyā*), bodily signs (*aṅga-vidyā*), knowledge of cows (*go-lakshaṇa*), horses (*aśva lakshaṇa*), military science (*kshattra-vidyā*). Mutiplication of works had advanced and each is spoken of in terms of its exponent. Even the story literature had its devotees, *e g*. *Yāvakrītika* (adept in the story of Yavakrīta, related in the Vanaparva, Chs. 133-38, *A.B O. R.I.*, XXI.282); *Yāyātika* (proficient in the legend of Yayāti, cf. examples on VI.2.103), *Vāsavadattika* (well-versed in the romance of Vāsavadattā), and *Saumonottarika* (a special student of the romance of Sumananottrā, related at length in Buddhist literature (*Dict. of Pāli Proper Names*, I.361). Pāṇinī himself refers to special works dealing with *ākhyāna* material (VI.2.10).

CHARAKA—The peripatetic scholar was called *charaka*, as distinct from the *māṇava* and *antevāsin* who were attached to their schools (V.1.11,*Māṇava-charakābhyāṁ khañ*). Vaiśampāyana was called a *charaka*, obviously on the basis of his literary activities from place to place; his pupils following in his footsteps were also known as *charakas*. The *charakas* were like post-graduate scholars who after finishing their studies sought higher knowledge by travelling. The expression *chārikaṁ charantā* is applied in the *Jātakas* to advanced students of the Takshaśilā university, who after reaching the end of their studies travelled to train themselves in the direct knowledge of country observances (*Sonaka Jātaka*, V. 247). In the *Bṛhad. Up.* we find Bhujyu

Lāhyāyani mentioning to Yājñavalkya his wanderings in the Madra country as a *charaka* (*Madreshu charakāḥ paryavrajāma*, III. 3.1). Yuan Chwang mentions about Pāṇini himself that he travelled widely in search of linguistic material, interrogating learned men in different localities.

AUTHORSHIP—Specialists justified themselves by creative activity in producing advanced literature. Pāṇini makes mention of *granthas* or works composed (IV. 3.87; IV. 3 116).

He refers to the following classes of authors: (1) *mantrakāra*, (2) *padakāra*, (3) *sūtrakāra*, (4) *gāthākāra* and (5) *ślokakāra* (III. 2.23). These terms point to the different types of literature and styles of composition which they represented.

A writer on grammar is named *śabdakāra* (III. 2.23), or *śābdika* (IV. 4.34, *śabdaṁ karoti śābdiko vaiyākaraṇaḥ*). The literature of commentaries (*vyākhyāna*, IV. 3.66) was also growing and was the work of learned men who were inspired to produce them by their mastery of the original works. The highest intellectual output of the age was, however, the work of master-minds and original thinkers like Āpiśali, Yāska, Śākaṭāyana and Pāṇini, who discovered and opened up new fields of knowledge. The literary efforts of these geniuses were aptly called *upajñā*, new knowledge promulgated, or *ādya āchikhyāsā*, knowledge presented for the first time ((*sūtras* II. 4.21, *Upajñopakramaṁ tadādyāchikhyāsāyām*; IV. 3.115; VI. 2. 14). An indication of the great pains which these pioneers of learning took in order to enrich their subjects is given by Patañjali when he speaks of Pāṇini as *mahatā yatnena sūtraṁ praṇyati sma*, i. e. 'he planned and composed the *sūtras* with strenuous effort'. Pāṇini himself speaks of a perfect *sūtra* as *pratishṇāta*, 'immersed', i. e. emerging out of concentrated thought (VIII. 3.90, *sūtram pratishṇātam*). The simile appears to be taken from the maturity attained by one who had become a *snātaka*. He also refers to the linguistic forms expressive

of the devotion of an author to his work (*bhāsana, jñāna, yatna*) expressed by the root *vad* in the Ātmanepada, as *vadate chārvī, Lokāyate*, 'the Chārvī teacher shows himself brilliant in the exposition of the Lokāyata doctrine'. (I. 3.47).

Pāṇini mentions a type of literary activity called *prakathana* (I. 3.32), or extempore composition, *e.g. gāthāḥ prakurute* (*Kāśikā*). It appears that the *gāthākāra* mentioned in *sūtra* III. 2.23 was a person who was expected to compose at the spur of the moment *gāthā* verses, generally of a eulogistic character. In the Pāriplava *ākhyana* of the *Śatapatha Brāhmaṇa* the *vīṇāgāthī*, also called *vīṇāgaṇagin* is said to sing *gāthā* verses of his own composition (*svayaṁ sambhritā gāthā gāyati, S. B.* XIII. 4.3.5). The word *gāthaka* derived by Pāṇini from the root *gai*, to sing (III. 1.146) seems to have been originally connected with a *gāthā* composer who sang the verses to the accompaniment of a lute.

NAMING OF BOOKS—Pāṇini enunciates two general principles for the naming of literary works : (1) after the name of the author (*Krite granthe*, IV. 3.116), *e. g. Vāraruchāḥ ślokāḥ*, the *ślokas* composed by Vararuchi ; and (2) after the name of the subject treated (*Adhikritya krite granthe*, IV. 3.87), *e g. Saubhadra*, 'story of Subhadrā' ; *Gaurimitra*, not explained ; *Yāyāta*, story of Yayāti. These short stories were meant to popularise the great characters of ancient history. As examples of works named after subjects, Pāṇini mentions (1) *Śiśukrandīya* ('a work based on the cry of the divine child Krishṇa at birth') ; (2) *Yamasabhīya* ('relating to the assembly of Yama') ; (3) *Indrajananīya* ('relating to the birth of Indra') (IV. 3.88).

Commentaries were named after the topics they expounded (*vyākhyātavyā-nāmnaḥ*, IV. 3.66), *e g. Supāṁ vyākhyānaḥ Saupaḥ granthaḥ* (a book on case-endings) ; similarly *Taiṅa* (verbal endings); *Kārta* (verbal Nouns) ; *Shātvaṇatvikam* (Cerebralisation) ; *Nātanātikam* (Accentuation). Pāṇini cites examples of commentarial literature dealing with topics, both big and small; *e.g.* (1) *kratus* (IV.3.68) such as (a) *Āgnishṭomika* (dealing with Agnishṭoma sacrifice), (b) *Vājapeyika* (dealing

with Vājapeya sacrifice), (c) *Rājasūyika* (dealing with Rājasūya sacrifice); (2) *Yajñas* (smaller sacrifices in the domestic fire, IV.3.68), such as (a) *Pākayajñika*, (b) *Nāvayajñika*; (3) *Adhyāyas* (Chapters of Vedic works IV.3.69), such as (a) *Vāsishṭhika Adhyāya*(*Vasishṭhasya vyākhyānaḥ*, commentary of the Seventh *Maṇḍala* of the *Ṛigveda*,), (b) *Vaiśvamitrika* (Third *Maṇḍala*); and (4) smaller works, like (i) *Pauroḍāśika* (relating to the explanation of the *mantras* used in preparation of *puroḍāśa* oblation); (ii) *Puroḍāśika* (relating to the regulations for the preparation of *puroḍāśa*); (iii) *Chhandasya* or *Chhāndasa* (a book on meters, IV.3.71); (iv) *Aistika* (IV.3.72, on the household sacrifices); (v) *Pāśuka* (animal sacrifices); (vi) *Chātur-hotrika* (relating to the Chatur-hotṛi service, performed by the four chief-priests); (vii) *Pāñcha-hotrika* (on the particular formula called *pañcha-hotṛi*, in which five deities are named); (viii) *Brāhmaṇika* (commentary of a *Brāhmaṇa*); (ix) *Archika* (of the Ṛik verses); (x) *Prāthamika* (probably the Prathmārchika of the *Sāmveda*); (xi) *Ādhvarika* (relating to the Adhvara or Soma-sacrifice); (xii) *Pauraścharaṇika* (relating to a preparatory rite as mentioned in the *Śatapatha Br.*); (xiii) *Nāmika* (dealing with Nouns) and (xiv) *Ākhyātika* (dealing with Verbs; IV 3.72). (xv) *Ārgayana* (=*Ṛigayana-vyākhyāna*, explanatory of the recitation or study of the whole *Ṛigveda*, IV.3.73, cf. also *Kāśikā* on VI.2.151). This extensive literature of commentaries is mentioned in the *sūtras*, IV.3.68-72. Other explanatory works based on minor texts are cited in the *Ṛig-ayanādi gaṇa* (IV.3.73), such as *Chhandomāna*, *Chhandobhāshā*, *Chhandovichiti*, *Nyāya*, *Punarukta*, *Vyākaraṇa*, *Nigama*, *Vāstuvidyā*, *Aṅgavidyā*, *Kshattravidyā*, *Utpāta*, *Saṁvatsara*, *Muhūrta*, *Nimitta*, *etc*. (Cf. *aṅgavijjā*, *vatthuvijjā*, *khattavijjā* in the Brahmajāla-sutta, *Dīghanikāya*, I.21).

Sūtra works had the peculiarity of being named after the number of their chapters (*adhyāyas*, V.1.58), *e.g.* Pāṇini's own work called *Ashṭaka* ('Eight Chapters'). The *Kāśikā* adds that the work of Kāśakṛitsni consisting of three *adhyāyas* was called *Trika* ('Three Chapters') and of Vyā-

ghrapād *Daśaka* ('Ten Chapters') (V.1.58). The students studying these texts were also designated as *Ashṭakāḥ*, *Trikāḥ*, *Daśakāḥ* respectively (IV.2.65, *Sūtrāch-cha kopadhāt*). A similar principle of naming operated in the case of two Brāhmaṇa works of 30 and 40 chapters (V.1.62), which, as Keith suggests, were the *Kaushītakī* and the *Aitareya Brāhmaṇas* respectively (*Ṛigveda Brāhmaṇas*, Intro.). We know at least in the case of the *Śatapatha* that the *adhyāya* division was an important factor in the growth of its contents. The first nine books dealing with a complete exposition of the Haviryajña and Soma sacrifices (Books I-V also called *Ishṭi-Paśubandha*, cf. *Kāśikā* on *sūtra* II.1.6) contained sixty *adhyāyas* and were known as *Shashṭipatha* ('Sixty Chapters'). With the addition of the last five books (X-XIV) consisting of forty Chapters the name *Śatapatha* was finally applied to the work.

PLAN OF A TREATISE—A requisite of literary composition is its proper planning and presentation of subject-matter. This plan is called *tantra-yukti*. The work of Kauṭilya has thirty-two *Tantra-yuktis*; Charaka and Suśruta also mention them, the former adding three more to the list. The ancient Tamil grammar, the *Tolkappiyam*, based on the tradition of the Aindra school, enumerates in its Porulātikāram section thirty-two principles of which twenty-two agree with those of Kauṭilya. The Mimāṁsakas with their flare for analysis have indicated the principles of a literary composition. Of these they have singled out *saṁgati*, inherent consistency or internal order, and *maṅgala*, benedictory opening. These *Tantra-yuktis* were also known to Pāṇini. The first of these, *viz.* *Adhikāra*, treatment of the matter within the purview or scope of a work is referred to in the *sūtra* *Adhikṛitya kṛite grnthe* (IV. 3. 87), i.e. a work that is composed in accordance with the principle of *adhikāra*, or sense of the relevant. Pāṇini's own work is model of *Vidhāna* or the treatment of topics in their inherent order. Whitney supposed that the *Ashṭādhyāyī* lacked the logical order in the arrangement of its

topics, but Barend Faddegon has shown that this assumption is not correct (*Studies on Pāṇini's Grammar*, 1936). Buiskool from his Study of the Tripādī Chapters (*Tripādī*, 1939) holds that Pāṇini's work was based on a system of thematical groups which are rationally classified and arranged.[1]

Other principles of treatment proper for scientific works are also indicated by Pāṇini, *e.g.* (1) *Hetvartha*, the ground of a statement or proposition (as in I.2.53) ; (2) *Upadeśa*, the author's own directions or instruction contained in his work (as in I.3.2) ; (3) *Apadeśa*, citation of another's opinion along with one's own, for refutation (as in I 2.51-52) ; (4) cross-reference of which there are so many in the *Ashṭādhyāyī* ; (5) *Saṁśaya* or *Vipratishedha*, doubt arising from two equally forceful alternatives (I.4.2) ; (6) *Vakyādhyāhāra*, supplying an ellipsis, mentioned in *sūtra* VI.1.139 ; (7) *Anumata*, citation of the opinion of another for its acceptance, as in the case of the opinions of other grammarians quoted by Pāṇini; (8) *Atiśaya-varṇana*, detailed description or over-loading with details (as in *Indriyam Indra liṅgam Indra-drishṭam Indra-srishṭam Indra-jushṭam Indra dattam iti vā*, V.2 93) ; (9) *Nirvachana* employing the derivative sense of a word, as in the case of *mahāsaṁjñās*, like *Sarvanāma*, *Avyaya*; (10) *Svasaṁjnā*, use of one's own technical terms as *ṭi*, *ghu*, *bha* ; (11) *Pūrvapaksha* and (12) *Uttarapaksha*, arguments for and against a proposition by which its truth may be ascertained (as in the *Sūtra-kāṇḍa*, I.2.51-56) ; (13) *Atideśa*, analogous application, (as in I.2.57, *Kālopasarjane cha tulyam*) ; and (14) alternative application, which appears in such words as *vā anyatarasyām*, *ubhayathā*, *ekeshām*, *bahulam* and *vibhāshā* in the *Ashṭādhyāyī* (cf. Patañjali for the rationale of these variant terms, II.1 58 ; I.400).

THEORY OF MAṄGALA—Maṅgala maens invocation or benediction with which a treatise is to be commenced.

1. For a simple analysis of the plan of the work adopted by Pāṇini, see Belvalkar, *Systems of Sanskrit Grammar*, pp. 20-22.

The invocation of the Divine was made to ensure the success of the undertaking. Pāṇini, as one of the greatest authors has also commenced his work, the *Ashṭādhyāyī*, with a similar invocation, indicated in his use of the word *vriddhi* at its beginning, though it meant an alteration in the order of the words which should have read *Adaich vṛiddhiḥ*, and not *Vṛiddhir-ādaich* (I.1.1). Patañjali raises this point and obviates the objection by invoking the practice of *maṅgala*. He says that Pāṇini as a *maṅgalika āchārya*, chose to begin his treatise with *vriddhi*, a word that ensures the growth of the work and the longevity of its readers (*Bhāshya*, I.40). Patañjali takes recourse to the same practice of *maṅgala* to justify the use of *vakāra* in *sūtra Bhūvādayo dhātavaḥ* (I.3.1). He further extends it to the middle and end of a work (*maṅgalādīni maṅgalamadhyāni maṅgalāntāni hi śāstrāṇi prathante*, I 3.1 ; I.252). This seems to hold good in the case of the *Ashṭādhyāyī*, for it has been suggested that the *sutra Śiva-śam-arishṭasya kare* (IV 4.143) represents Pāṇini's use of *maṅgala* also in the middle of his treatise. Only a few aphorisms later, *sūtra Tasmai hitam* (V.1.5), a benedictory expression ('Good be to all concerned!'), seems to be deliberately used by Pāṇini to name two of his most important chapters (fourth and fifth), viz *Taddhita*, dealing with hundreds of grammatical formations (*vrittis*).

Pāṇini also uses the benedictory term *udaya* in the last but one *sūtra* of the *Ashṭādhyāyī*. The use of *udaya* in place of shorter *para* points to his faith in the practice of *maṅgala* (*udāttaparasyeti vaktavya udaya- grahaṇaṁ maṅgalārtham*, *Kāśikā*, VIII.4.67). The word *udaya* of this *sūtra* was taken by him from the *Ṛik Prātiśākhya*, which uses it as a synonym of *para* (cf. *ṛikāra udaye*, II.32). It is impossible to agree with Sköld who argues that the *sūtra a a* concluding Pāṇini's great work, coming as it does after the *maṅgala*-denoting word *udaya*, is a later interpolation (*Papers on Pāṇini*, p. 8). This assumption is not quite tenable considering that Kātyāyana devotes for *vārtikas* to it, and Patañjali also comments on them as authentic. Both of them conclude

their works with the observation *Bhagavataḥ Pāṇineḥ siddham*. Patañjali, in his comment on *siddha*, the first word of the opening *vārttika* of Kātyāyana, makes that teacher also subscribe to the theory of *maṅgala* (as a *māṅgalika āchārya*, *Bhāshya*, 1.7).

In the Pārshada or Prātiśākhya tradition of the *Charaṇas Om* was pronounced at the commencement of *svādhyāya*. Pāṇini says that for this purpose it was to be uttered with a *pluta* accent (*Om-abhyādāne*, VIII 2.87.

WRITING—Writing was known in the time of Pāṇini and even earlier according to Goldstücker who thinks that Vedic literature was available to Pāṇini even in Mss. (Goldstucker, *Pāṇini*, pp. 11–47). Though teaching was oral in those days, and study from manuscripts was encouraged on principle as the proper method of learning, Pāṇini hints at the use of the writing in several significant expressions. These are (1) *grantha*, (2) *lipikara*, a writer, (3) *Yavanānī lipi*, and (4) the marks of numerals imprinted on the ears of cattle to indicate their owners, as already shown (VI.3.115).

(1) *Lipikara* (III. 2. 21) as well as its variant form *libikara*, denoted a writer. The term *lipi* with its variant was a standing term for writing in the Maurya period and earlier. *Dhammalipi*, with its alternative form *dharmadipi*, stands for the Edicts of Asoka engraved on rocks in the third century B.C An engraver is there referred to as *lipikara* (M. R. E., II). Kauṭilya also knows the term: 'A king shall learn the *lipi* (alphabet) and *saṅkhyāna* (numbers, *Arth*. I.5). He also refers to *saṁjñā lipi*, 'Code Writing' (*Arth*., I.12) used at the Espionage Institute. In the Behistun inscription we find *dipi* for engraved writing. Thus it is certain that *lipi* in the time of Pāṇini meant writing and script.

(2) *Branding of kine with numerals*. Pāṇini refers to the marking of certain signs on the ears of cattle to indicate ownership. Among several signs thus branded (*sūtra* VI.3.

115), the terms *ashṭa* and *pañcha* stood for the written figures of the numerals 8 and 5 (Goldstücker, *Pāṇini*, p. 44).

(3) *Yavanānī* (IV.1.49). Kātyāyana's *vārttika* mentioning the *lipi* of the Yavanas (*Yavanāl-lipyām*) is only an explanation of Pāṇini's use of the term *Yavanānī*. It is unwarranted to assume that he is supplying some new information not known to Pāṇini. Such an assumption goes against the very style of Kātyāyana's other *vārttikas* on this *sūtra*, designed to explain and not supplement the words of Pāṇini's rule, as *himānī*, *araṇyānī*, *yavānī* *Yavanāni* as the name of a script occurs in the list of scripts in the *Samavāyāṅga sūtra* (*Samavāya* XVIII) under the form *Javaṇāṇiyā* (cf. also the same list in *Paṇṇavaṇā sūtra*). Weber interpreted *Yavanānī* as Greek writing (*Ind. St.*, IV. 89). Keith also hold that *Yavanānī lipi* meant 'Greek (Ionian) writing' (*Hist. of Sans. Lit*, p. 425).

Goldstücker and Spooner took *Yavanānī* to refer to the Persian cuneiform writing which Keith refutes as highly improbable since there is no evidence to show that the word *Yavana* ever meant the Persians (*J.R A.S.*, 1915, p. 432). Darius (B. C. 521-B.C. 485) in his Old-Persian Inscriptions refers to the country *Yauna* and to its inhabitants as *Yaunā* (Behistun Inscription, names of the twenty-three provinces), which shows that the terms cannot be taken to mean Persia or the Persians. Most scholars agree in taking them as Ionia and Ionian Greeks. Aśoka likewise uses in his inscriptions the word *Yona* for *Yavana* and not for the Persians. The suggestion that *Yavanānī* was the name of the Armaic writing discovered in a stone inscription at Takshaśila, likewise remains unsupported by any proof. Herodotus mentions a contingent of Indian soldiers in the army of Xerxes fighting in Greece and there were Greek colonists settled in Bactria even before Alexander. Thus Pāṇini's knowledge of the word for Greek Writing can be naturally understood

CH. V SECTION 3. LITERATURE

CLASSES OF LITERATURE—Pāṇini classifies literature on the basis of the character of the creative effort producing it. This is indicated by the following terms :

(1) *Drishṭa* (IV.2.7). Literature that is revealed or seen. Under this class he mentions the *Sāmans* named after their seers or Ṛishis, e g. *Kāleya* (IV 2.8) and *Vāmadevya* (IV.2.9).

He also must have known the *Saṁhitās* of the Ṛigveda and Yajurveda, and their divisions like *Sūkta* (V.2.59), *Adhyāya* and *Anuvāka* (V.2.60).

(2) *Prokta* (IV.3.101). Literature promulgated or enounced by Ṛishis, as founders of the different Vedic *Charaṇas*. Under this class were included the *Chhandas* works (IV.2 66), or *Śākhās*, *e.g.* the *Śākhā* works of the Taittirīyas (IV.3.102), Kaṭhas (IV.3 107) and Kālāpas (IV. 3.108) ; and the older Brāhmaṇas (IV.3.105). As pointed out above the *Prokta* works were connected with the teachers and students devoted to their study in the *Charaṇas*. This complete identity of the name of a Vedic text with that of its students held good for Śākhā and Brāhmaṇa works only (IV.2.66). For Example, in the School of the Taittirīyas, the original Śākhā and its Brāhmaṇa alone would be entitled to a name in accordance with the rule of *tad-vishayatā*, as *Taittirīya Śākhā* and *Taittirīya Brāhmaṇas*. But in course of time the Āraṇyaka and Upanishad portions were also developed as constituent parts of the *Brāhmaṇas*, and the name *Taittīriya* was applied to them also.

A third kind of *Prokta* works developed in the Vedic schools was that of the *Kalpas*, or *Śrautasūtras*, classed as

Vedāṅga works. Kātyāyana and Patañjali definitely state that the rule of *tad vishayatā* did not apply to Kalpa works, but an exception was made in the case of only two such Kalpa books, *viz.* those of Kāśyapa and Kauśika, who are mentioned by Pāṇini as Ṛishis (IV.3.103). The schools of Kāśyapa and Kauśika were known as *Kaśyapinaḥ* and *Kauśikinaḥ* (*Kāśyapa-Kauśika-grahaṇaṁ cha Kalpe niyamārtham, Vār.* 6 on IV.2.66).

Another variety of *Prokta* literature mentioned by Pāṇini consisted of two special kinds of *sūtra* works, *viz.* (1) the *Bhikshusūtras* of Pāráśarya and Karmanda, and (2) the *Naṭasūtras* of Śilālin and Kṛiśāśva (IV.3.110-11). It is surprising that the strict principle of *tad-vishayatā* which applied to Vedic works should have been extended to these four works of later origin and secular character The examples cited by Patañjali, *Pārāśariṇo bhikshavaḥ, Śailālino naṭāḥ*, show that these treatises were connected with their own schools with a succession of teachers and pupils (*adhyetṛi veditṛi*), like other orthodox sacred works. The *Pārāśara* and *Śailālaka Charaṇas* were originally related to the *Ṛigveda*, but their activity later on centred round new subjects of study dealt with in their *Bhikshusūtras* and *Naṭasūtras*. Probably the *Naṭasūtras* of Śilālin were the original sources of the material in Bharata's *Nāṭyaśāstra*. The Vedic schools lent their authority to the secular subjects promoted by them, which were thus given the rank of Chhandas works (*Bhikshu-Naṭa-sūtrayoś-Chhandastvam, Kāśikā*), and the status of Vedic schools applied to them (*Atrāpi tad-vishayatā chetyanuvartishyate, Bhāshya*, II. 286). That Pāṇini looked upon the dramaturgical works as *āmnāya* of sacred authority associated with the *Charaṇas*, is borne out by the reference to *Nāṭya* in *sūtra* IV.3 129, (cf. *naṭa śabdādapi dharmāmnāya-yoreva bhavati, Kāśikā*). The *Bhikshusūtra* of Karmanda and the *Naṭasūtras* of Kṛiśāśva were no doubt the product of the Vedic *Charaṇas* (*atrāpi tad-vishayatārthaṁ chhando-grahaṇam, Kāśikā*, IV.3. 111). It is not known to which Veda these latter belonged.

(3) *Upajñāta* (IV.3.115). Literature bringing to light new knowledge expounded for the first time (*ādya āchikhyāsā*, II.4.21), came under this class, *e.g.* the works of such original authors as Āpiśali, Pāṇini, Vyāḍi and Kāśakṛitsna (IV. 3. 115). *Upajñāta* formed a special class under *Prokta* literature, since the grammatical treatises of Āpiśali, Pāṇini, etc, are both regarded as *Prokta* and *Upajñāta* (*Pāṇininā proktam, Pāṇininā upajñātam* both were *Pāṇinīyaṁ*). This is just what should have been expected in the transitional period. Such texts combined certain features of the *Chhandas Prokta* works and other features of independent texts cultivated outside the *Charaṇas*. The most distinctive feature was the principle of individual authorship, which did not operate in the case of the *Prokta* class of Vedic texts, but was applied to *Upajñāta* works being the exclusive fruit of the creative efforts of their authors. Special scientific treatises, mostly the Vedāṅga literature, were being written outside the *Charaṇas*, as a result of the intense intellectual activity on the part of their authors. The works of Yāska and Śākaṭāyana, Audavraji and Pāṇini were of this category and named after the first exponents (*e. g. Pāṇininopajñātaṁ Pāṇinīyam akālakaṁ vyākaraṇam, Kāśikā*, IV.3.115).

The school-denoting (*adhyetṛi veditṛi*) suffix was elided in this case also (*Proktāl-luk*, IV. 2. 64). Thus both the treatise of Pāṇini and its teachers and students were called *Pāṇinīya*. Although in its effect on the formation of names of the text and its school there was no difference but from the institutional point of view the difference was remarkable between the method of study as applied to the new works like those of Pāṇini on the one hand and the traditional *Charaṇa* literature on the other. The followers of new sciences were not organized into the same sort of educational fraternity as in the case of the *Śākhā* works. Moreover the *Pāṇinīya* treatise and the *Pāṇinīya* students did not belong to one particular *Charaṇa*, but were connected with Vedic schools in general.

Sūtra IV.2.65 states that the students of the new *sūtra* works were also named after the number of chapters in the texts studied by them, such as *Ashṭakāḥ*, *Daśakāḥ*, *Trikāḥ*. Thus all the *Pāṇinīyas* to whichever Vedic school they belonged would be called *Ashṭakāḥ*.

As a sequel to intensive efforts at compilation and computation this special phase of naming texts had been evolved much earlier, as names like *Śatapatha*, and *Shashṭipatha* testify. Pāṇini himself refers to two *Brāhmaṇa* works with 30 and 40 *adhyāyas*, and on that account known as *Traiṁśa* (= *Kaushītakī*) and *Chātvāriṁśa* (= *Aitareya*) (V. 1. 62).

(4) *Kṛita* (IV.3.87; IV.3.116). This class of literature comprised ordinary works, termed *grantha*, which were named after their subject-matter (*Adhikṛitya kṛite granthe*, IV.3.87) or by an adjective derived from the author's name (*kṛite granthe*, IV. 3. 116). The rise of the *śloka* metre and with it the emergence of the classical poet (*ślokakāra*, III. 2.23) rapidly brought into being a new type of *kāvya* and *nāṭaka* literature as a medium of literary effort, and these were put under the *Kṛita* class. For example, *Saubhadra* (a book based on the story of Subhadrā); *Yāyāta* (on the legend of Yayāti); and *Vāraruchāḥ ślokāḥ* (a book of verses composed by Vararuchi), all later examples recorded in the *Kāśikā*. Pāṇini himself cites *Śiśukrandīya*, *Indrajananīya* (works relating to the birth of Krishṇa and Indra) as instances of *Kṛita* works.

Kṛita is to be distinguished from *Upajñāta* in that the former referred to a book composed by a certain author; whereas the latter always had reference to a topic promulgated by a person. As Maxmuller puts it: 'A work which has only been taught and promulgated by a person, is not to be called his book (*grantha*), but bears its own title, such as "grammar", or, whatever else it may be, together with an adjective derived from the author's name. Pāṇini's grammar, for instance, is not to be called *Pāṇinīyo*

granthaḥ, but *Pāṇinīyaṁ Vyākaraṇam*, because it is a canonical work revealed to Pāṇini, but not invented by him." (*Hist. of Skt. Literature*, p. 361).

(5) *Vyākhyāna* (IV.3.66). Literature of Exposition and Commentaries. It comprised miscellaneous works on religious and secular subjects. These were not to be reckoned as original works, but were called for by the practical needs of interpreting and conserving Vedic texts, performance of rituals, and also to advance the knowledge embodied in the Vedāṅgas, works of philosophy and miscellaneous subjects, such as astrology (*Jyotish*), divination (*Aṅgavidyā*), military science (*Kshatravidyā*), etc. These included a vast and varied range of literature, like the extensive works on *Soma-Kratus* and smaller hand-books on *Puroḍāśa*, explanations of special parts (*Adhyāyas*) of the Ṛigveda, specialised grammatical works like *Nāmika* and *Ākhyātika* (IV. 3.72). The literature of Commentaries added to the volume and variety of Sanskrit literature by the contributions made to it by authors of different capacities, competent to deal with such scientific subjects as grammar and etymology, and others to treat such minor topics as portents (*utpāta*, IV. 3.73), and fortune-telling (*nimitta*), its text being called *naimitta*, (IV. 3.73) and an interpreter of prognostics as *naimittika*, (IV. 2.60). Pāṇini refers to foretelling in *sūtra* I. 4.39 (*Rādhīkshyor-yasya viprasnaḥ*).

Works Known to Pāṇini

VEDIC TEXTS—The extent of Pāṇini's acquaintance with Vedic texts is known by (1) works mentioned by name, and (2) texts that provided him material for his Grammar. Thieme, tracing Pāṇini's references to their original sources, has shown that Pāṇini derived his grammatical material from the texts of the *Ṛigveda*, *Maitrāyaṇī Saṁhitā*, *Kāṭhaka Saṁhitā*, *Taittirīya Saṁhitā* and *Atharvaveda*, probably also from the *Sāmaveda*. To these may also be added the Śākalya Pada-pāṭha of the *Ṛigveda* which has supplied him with material for *sūtras* I. 1.16-18 (P. Thieme, *Pāṇini*

And The Veda, p. 63). Thieme further points out that some of the Vedic forms used by Pāṇini cannot be traced to any extant Vedic works. Possibly they were derived from some text or *Śākhā* of the Black Yajurveda which was known in his time but now lost to us (*ib.*, p. 64). The Atharvaveda used by Pāṇini is believed to be in its Paippalāda recension (*ib.*, p. 66).

Goldstücker held that Pāṇini did not know the *Atharvaveda* (*Pāṇini*, p. 108). According to Weber this view is not tenable, since Pāṇini has actually utilised the material from this Veda (Thieme, *ib.*, p. 73). Pāṇini mentions Ātharvaṇikas (students of Atharvan, VI. 4.174), and includes the name Atharvan and Atharvaṇa in the *Vasantādi-gaṇa* (*Bhāshya*, II. 320), on which Patañjali says that the Ātharvaṇika students were studying an *Amnāya* (*i.e. Śākhā*) and a *Dharma* (*i e. Dharmasūtra*) of their own.

Goldstücker had taken the view that the *Vājasaneyī Saṁhitā* and the *Śatapatha Brāhmaṇa* were also unknown to Pāṇini. Thieme thinks that Pāṇini did not gather any material from the White Yajurveda, but this should not mean that Pāṇini's grammar was anterior to the *Vājasaneyī Saṁhitā* and the *Śatapatha Brāhmaṇa* (Thieme, *ib.*, p. 74 ; K. B. Pathak, *A. B. O. R. I.*, IX. 48). Pāṇini refers to Vājasaneya and Vājasaneyin in the *Gaṇa-pāṭha Śaunakādi* (IV. 3.106).

TERMS INDICATIVE OF TEXTS—Pāṇini has used in his *sūtras* the following terms associated with certain texts : (1) *Chhandas*, (2) *Mantra*, (3) *Ṛich*, (4) *Yajus*, (5) *Brāhmaṇa*, and (6) *Nigama*. *Chhandas* denoted the sacred literature, as distinguished from *Bhāshā*, the spoken language. *Chhandas* included both the Saṁhitā and the Brāhmaṇa literature. the term *Mantra* had a more restricted scope being applied to a sacred formula whether in verse (*rich*) or in prose (*yajush*), as opposed to the *Brāhmaṇa*. Thus the particular linguistic forms noted for *Mantras* do not occur in the *Brāhmaṇas*. The term *Ṛich* stands in Pāṇini for a Vedic

stanza, as opposed to a formula in prose which was called *Yajush*. *Brāhmaṇa* stands for the *Brāhmaṇa* works, and *a-mantra* of *sūtra* III. 1.35 also pointed to non-*mantra* literature or the *Brāhmaṇas*. The word *Nigama* denoted linguistic and exegetical tradition as embodied in the Vedic literature. *VEDIC ŚĀKHĀS*—The *Śākhās* or different recensions, as we have seen, formed the basis upon which the *Charaṇas* or Vedic Schools were based. They were known also as *Chhandas* texts and as *Āmnāya* (*Bhāsya*, II.3.19, *Charaṇād dharmāmnāyayoḥ*). The *Brāhmaṇa* works in addition to the *Chhandas* works formed the principal subjects of study in a Vedic *Charaṇa* or School .as stated in the *sūtra*, *Chhando-Brāhmaṇāni cha tad-vishayāni*, (IV.2.66).

ṚIGVEDA—The following Schools of the Ṛigveda were known to Pāṇini ;

(1) *Śākala*. Pāṇini knew the *Pada-pātha* of the *Ṛigveda* arranged by *Śākalya* (I.1.16). He also refers to students studying the *Prokta* work of Śākalya (*Śākalād-vā*, IV.3.128). The Śākalas formed an important School of the *Ṛigveda*. The present recension of the *Ṛik Saṁhitā* is that of the Śākalas, and belongs specially to that branch of this School which bears the name of the Śaiśirīyas. The *Ṛik Prātiśākhya* proclaims its affiliation to the Śaiśirīya Śākhā in its introductory verses. Pāṇini refers to the Śaiśirīyas in the *Gaṇa-pāṭha* to IV.2.138. According to Weber, tradition makes the Śākalas intimately connected with the Śunakas, and to Śaunaka in particular a number of accessory works of the Ṛigveda are attributed (*Hist. of Ind. Lit.* p. 33). Pāṇini mentions the *antevāsins* of both these schools, Śākālas and Śunakas, under the compound word *Śākala-Śunakāḥ* (*Kārta-Kaujapādi gaṇa*, VI.2.37), indicating their intimate relationship as offshoots of the same school.

The *Śākalas* again in their development branched off into five divisions founded by the disciples of Śākalya, named as (1) Mudgala, (2) Gālava, (3) Vātsya, (4) Sālīya, and (5) Śaiśirīya.

Pāṇini refers to a *Krama-pāṭha* in *sūtra* IV.2.61, which appears to imply the *Krama-pāṭha* of the *Ṛik-Saṁhitā* traced to its author named Pāñchāla Bābhravya. A Bābhravya is mentioned in *sūtra* IV.1.106 as belonging to the Kauśika *gotra*. In the *Gaṇa-pātha* of *Kārta-Kaujapādi* (VI.2.37) Bābhravya's students are referred to along with those of Śaunaka as *Śunaka-Bābhravāḥ*, evidently implying that they were both followers of the same *Śākhā* of the *Ṛigveda*. In the later text of the *Matsya Purāṇa* (21.30) is recorded the tradition that Bābhravya was the author of the *Krama-pāṭha*, and also that he was the minister of King Brahmadatta of Dakshiṇa-Pañchāla.

(2) *Bāshkala*. Another important recension of the Ṛigveda was represented by the Bāshkalas according to the *Charaṇa-Vyūha* (*Weber*, *H.I.L.*, p. 32). This recension is not directly mentioned by Pāṇini, but one of the disciples of Bāshkala was Parāśara who founded the Pārāśarī Śākhā. Patañjali refers to a Kalpa work of this school, the students being known as *Pārāśara-kalpika* (*Bhāshya* on IV.2.60). Pāṇini had this Vedic School in mind when he mentioned the *Bhikshu sūtras* of Pārāśarya devoloped as a special branch of study under the auspices of the Pārāśara *Charaṇa*, the followers of which, having embraced the ascetic life, were known as Pārāśarin Bhikhshus (*Pārāśariṇaḥ bhikshavaḥ*, IV.3.110). It may be noted that the Pārāśarya School showed its originality in producing the *Bhikshu-sūtras* as a class of *Prokta* literature, and not any *Chhāndasa* works for which they depended on the Bāshkala School.

(3) *Śilālin*. Pāṇini mentions Śilālin as the author of *Naṭasūtras*, his students forming the Vedic School of Dancing designated as *Śailālinaḥ naṭāḥ* (IV.3.110). The Śailālakas were originally a Ṛigvedic *Charaṇa* with their own Brāhmaṇa cited as the *Śailālika Brāhmaṇa* in the *Āpastamba Śrauta-Sūtra* (Keith, Āpastamba and the Bahvṛicha Brāhmaṇa, *J.R.A.S.*, 1915, p. 498). Kātyāyana also knows of the students of this Vedic school as *Śailālāḥ* (VI.4. 144). Thus it will be seen that the students of dramaturgy were

called *Śailālinaḥ* while those of orthodox Vedic studies were known by the simpler name of *Śailālāḥ*. The growth of a secular text like the *Naṭa-sūtra* under the auspices of a Vedic School shows the scope that Vedic literature gave to new intellectual development not directly connected with religion.

(4) *Bahvṛicha*. Pāṇini mentions the *Āmnāya* and *Dharma* of the Bahvṛicha School as *Bāhvṛichya* (IV. 3. 129), and refers to Bahvṛicha as the name of a *Charaṇa* (*Antar-gaṇa-sūtra, anṛicho māṇave Bahvṛichaś charaṇākhyāyām*, V. 4.154). That this school once enjoyed wide distribution, is shown by Patañjali speaking in terms of the Bahvṛichas while referring to the Ṛigveda recensions (*ekaviṁśatidhā Bāhvṛichyam*, I. 9). The Bahvṛichas are referred to in the *Śatapatha Brāhmaṇa* (XI. 5.1.10) and quoted a dozen times in the *Aspastamba Śrauta Sūtra*. None of these citations can be traced to the two Ṛigveda Brāhmaṇas known to us, *viz*. *Aitareya* and *Kaushītakī*, and Keith was led to observe that 'It is perfectly certain that he (Āpastamba) meant some definite work which he may have had before him and in all probability all his quotations come from it' (Keith, *Ṛgveda Brāhmaṇas*, p. 496). It is unfortunate that neither the Saṁhitā, nor the Brāhmaṇa of this school has survived. According to Kumārila the Bahvṛichas were governed by the *Gṛihya sūtra* of Vasishṭha (*Tantravārttika*, I. 3.11). Keith thought that the Bahvṛicha School was identical with Paiṅgya, but they are mentioned as two separate Schools in the *Kaushītakī Brāhmaṇa*.

(5) *Śaunaka*. The Śaunaka School had its Chhandas text (*Śaunakādibhyaś-Chhandasi*, IV. 3.106), the students being called *Saunakinaḥ*. As already pointed out the Śaunaka School was intimately connected with the Śākalas. To Śaunaka in particular a number of writings on the *Ṛigveda* are attributed (Weber, *H.I.L.*, p. 33).

Pāṇini also refers to Paila (II. 4.59), although his association with a Vedic text is not mentioned. Paila is

known as a redactor of the Ṛigveda, and as following the tradition of Vyāsa. The School of Paila had two offshoots, *viz.* the School of Bāshkali and that of Māṇḍukeya, the latter being mentioned in the Kārta-Kaujāpādi *gaṇa* together with Sāvarṇi.

YAJURVED 1—The Krishṇa Yajurveda is referred to by Pāṇini several times. Amongst teachers of this School he mentions Tittiri, Varatantu, Khaṇḍika, Ukha, (IV. 3. 102), Kaṭha and Kalāpin (IV. 3.107-108). The original teacher and founder of this School was Vaiśampāyana whose direct disciples are called *Vaiśampāyanāntevāsin* (IV.3.104). These had the privilege of personal contact with the teacher (*pratyakshakāriṇaḥ*, according to the *Kāśikā*). Each of these became the founder of a school and promulgated its own text. Weber has pointed out: 'Of the many schools which are allotted to the Black Yajus, all probably did not extend to the Saṁhitā and Brāhmaṇa; some probably embraced the Sūtras only. This is likewise the case with the other Vedas.' (*H.I.L*, p. 88). The following Schools may be noticed :—

(1) *Taittirīya* (IV. 3.102). Pāṇini mentions Tittiri as the founder of the Taittirīya School. The Taittirīyas had close connection with the Kaṭhas since the last sections of the *Taittirīya Brāhmaṇa* are named *Kāṭhaka* (Bhagavaddatta, *Vaidika Vāṅmaya kā Itihāsa*, p. 197).

(2) *Aukhīyas* (IV. 3.102). The Taittirīyas grew into two Schools, the Aukhīyas and the Khāṇḍikīyas (cf. *Charaṇavyūha*, II. 1). The Ātreyas referred to in II. 4.65 as a counter-example and in IV. 1.117 as a *gotra* name were a branch of the Aukhīyas.

(3) *Khāṇḍikīya* (IV. 3. 102). It was a branch of the Taittirīyas from which grew later the Schools of Āpastamba, Hiraṇyakeśin and Bhāradvāja (*Charaṇavyūha*).

(4) *Vāratantavīya* (IV. 3.102). This School existed independently in the time of Pāṇini, although not a single text of the same has survived.

(5) *Vaiśampāyana* and *Charaka*. Pāṇini mentions the followers of the Charaka School as Charakas (IV. 3.107). The *Kāśikā* informs that Charaka was the name of Vaiśampāyana (*Charaka iti Vaiśampāyanasyākhyā*, IV. 3. 104). Charaka was originally used in the sense of a "Travelling Scholar", from the root *chara*, "to wander about for instruction" (Weber, *H. I. L.*, p. 87). In the *Śatapatha Brāhmaṇa* the adherents of the Charaka branch of the Black Yajus are designated Charakādhvaryus. Vaiśampāyana stands out as the pre-eminent Vedic teacher, whom Śabarasvamī following an old tradition describes as the originator of all the Śākhās of the *Krishṇa Yajurveda* (*Smaryate cha, Vaiśampāyanaḥ sarva-śākhādhyāyī*, *Mimāṁsā Bhāshya*, 1.1.30). The *Kāśikā* mentions the names of nine pupils of Vaiśampāyana who were grouped territorially. Patañjali, referring to the three Prāchya (Eastern), three Udīchya (Northern) and three Madhyama (Meridional) *Charaṇas*, alludes to the Schools of Vaiśampāyana as established by his disciples (*Bhāshya*, II.301; IV. 2.138, *madhya madhyamaṁ chāṇ-charaṇe*).

(6) & (7). *Schools of Ālambi and Palaṅga*. These were the two eastern disciples of Vaiśampāyana Charaka who founded the Ālambin and Pālaṅgin Schools.

(8) *Kāmalinaḥ*. It is the name of the third eastern School of the Charkas. The Purāṇas mention the founder as Kāmalāyani (*Brahmāṇḍa Purāṇa*, I.33.6).

(9) *Kaṭha* (IV.3.107). Pāṇini mentions the Kaṭhas separately in IV.3.107; they were the Udīchya disciples of Vaiśampāyana and probably belonged to the Panjab. In the time of Patañjali, the Kaṭha School had attained wide celebrity (*grāme grāme Kāṭhakam Kālāpakaṁ cha prochyate*, *Bhāshya*, IV.3.101; II.315), and their text was considered to be of high authority (*Kaṭhaṁ mahat suvihitam*, IV.2.66; II.285).

Pāṇini mentions the compound names *Kaṭha-Kālāpāḥ* and *Kaṭha-Kauthumāḥ* in the *Gaṇa-pāṭha* of VI.2.37, which

indicates these Schools were closely connected by their texts. The Saṁhitā of the Kaṭha School is extant. In the *Charaṇavyūha* two more local branches of the Kaṭha School are mentioned, *viz.* Prāchya-Kaṭhas and Kapishṭhala-Kaṭhas. Pāṇini derives some material from the text of the Kāṭhaka School *Devasumnayor-Yajushi Kāṭhake*, VII.4.38). He also mentions Kapishṭhala as a *gotra* name (VIII.3.91, *Kapishṭhalo gotre*), which seems to have been applied to an offshoot of the Kaṭha School. Most of the Vedic *Charaṇas* were founded by Ṛishis whose names were also used for *gotra* appellations. Megasthenes mentions the *Kambistholoi* (=Kapishṭhala) as a people in the Panjab through whose territory the river Hydraotes flowed. This would place the Kapishṭhalas in the country of the Kaṭhas (Kathioi) who resisted Alexander's march through their country. It does not seem to have been any connection with the place-name Kapisthala or Kaithal in the Panjab (VII.3.91, counter-example). The Saṁhitā of the Kapishṭhalas is extant to this day.

(10) *Kālāpa* (IV.3.108). Kalāpin, a disciple of Vaiśampāyana, belonged to the Udīchya country. The pupils of his School were known as *Kālāpas* (*Kalāpino'ṇ*). Kalāpin appears to be himself a teacher of outstanding merit, since Pāṇini tells us that not only he himself but also his disciples became founders of new Vedic schools. Of the pupils of Kalāpin, the *Kāśikā* mentions four, *viz.* Haridru, Chhagalī, Tumburu and Ulapa, who severally became founders of new *Charaṇas*.

(11) *Śyāmāyana*. He was a pupil of Vaiśampāyana who belonged to the north (*Udīchya*). The followers of his School were known as *Śyāmāyaninaḥ*. Śyāmāyana occurs as a *gotra* name in the *Aśvādi-gaṇa* (IV.1.110). The School is counted as one of the six sub-divisions of the Maitrāyaṇīyas.

(12), (13) & (14). According to the *Kāśikā* the three Schools of the Charakas belonging to the Middle Country (*Madhyamīya Charaṇas*) were founded by Ṛichāba, Āruṇi and Tāṇḍya. The School of Āruṇi, may be the same as

that of Uddālaka Āruṇi, who along with his son, according to Patañjali, belonged to the Bharata country (II.4.66;I.493).

(15), (16), (17) & (18). Schools of Haridru, Tumburu, Ulapa and Chhagalin. These were the four disciples of Kalāpī who founded independent Schools named after them as *Hāridraviṇaḥ Taumburaviṇaḥ, Aulapinaḥ and Chhāgaleyinaḥ*. The School of Chhagalin is specifically mentioned in *sūtra* IV. 3.109 (*Chhagalino ḍhinuk*). Of the others little is known except that Yāska has once quoted from a text called *Hāridravika* which may have been a *Brāhmaṇa* of this *Charaṇa*. All these four names occur together in the *Mānava Gṛihya-pariśishṭa*, Pt. Bhagavaddatta, *Vaidika Vāṅmaya*, part I, 2nd ed. p. 297).

(19) *Khāḍāyana*. Pāṇini mentions the School of Khāḍāyana in the *Saunakādi-gaṇa*, and both Kātyāyana and Pātañjali take it to be a genuine reading. Patañjali says that Kaṭha was an *antevāsī* of Vaiśampāyana, and Khāḍāyana that of Kaṭha. Kātyāyana makes the important observation that Pāṇini's intention in mentioning the pupils of Vaiśampāyana and of Kalāpin separately was to restrict himself only to such names as denoted the seers (*pratyaksha-kārin*), *i.e.* only persons by whom a Vedic text had been promulgated (*Kalāpi-Khāḍāyana grahaṇaṁ jñāpakaṁ Vaiśampāyanāntevāsishu pratyakshakāri-grahaṇasya*, *Vār*. on IV.3.104). Kātyāyana also states that only Chhandas works were called after the name of the *Charaṇa* or its founder, and not ordinary secular compositions like the *ślokas* of Tittiri which were called *Taittirīya*.

SUKLA-YAJURVEDA—The name Vājasaneya stands second in the *Saunakādi* group (IV.3.106) which seeks to regulate the form Vājasaneyin to denote the *Chhandas* text of this school.

SAMVEDA—The Saṁhitā of this Veda existed in two forms, *viz*. the *ārchika* (the *ṛich*-text marked with *sāman*-accents) and the *geya* or songs. The *ārchika* is referred to in *sūtra* IV.3.72, and the *geya* in *sūtra* III.4.68 which the

Kāśikā interprets with reference to the *sāman* songs. Pāṇini mentions *Chhāndogya* in the sacrifice sense of the text belonging to the Chhandoga School of the Sāmaveda (IV.3. 129). In *sūtra* VI. 2.37, Pāṇini refers to *Kārta* students named after their teacher Kṛita, who according to the *Vishṇu Purāṇa* (IV. 19. 50-52) was a Paurava prince, and disciple of the Sāmaveda teacher Hiraṇyanābha, king of Kosala. Kṛita is credited with the promulgation through his disciples of twenty-four Saṁhitās which were in circulation in eastern parts of India (*yaś-chaturviṁśatiṁ Prāchya-Sāmagānāṁ Saṁhitāś-chakāra*). He did for the Sāmaveda what Vaiśampāyana had done for the Yajurveda. The *Kārta-Kaujapādi-gaṇa* mentions the names of about thirty Vedic Schools and the compound words indicate some kind of literary collaboration which made these pair names current in the language. Examples of such collaboration are preserved in the compound words *Kaṭha-Kālāpam, Kaṭha Kauthumam* (mentioned as examples of II. 4.3, *Anuvāde Charaṇānām*[1]); and *Mauda-Paippalāda* (Schools of the Atharvaveda, as examples of *sūtra* I.3.49 *Anorakarmakāt*); *Kauthuma-Laugākshāḥ* (both Schools of Sāmveda; its *Kauthumī Saṁhitā* being now extant); and *Bābhrava-Śālaṅkāyanāḥ* (the latter a School of the *Sāmaveda* in the Vāhīka country or Panjab, Weber, *H. I. L.*, p. 77 and p. 219 f. n.)[2]. The compound name *Bābhrava-Śālaṅkayana* representing a Ṛigvedic School of Pañchāla and a Sāmaveda School of Vāhīka, is also known to Patañjali who observes: 'Why should you come between the Bābhravas and the Śālaṅkayanas?' (*Kiṁ te Bābhrava-Śālaṅkāyanānām antareṇa gateneti, Bhāshya*, II. 3.4; I. 144)[3]. The Śālaṅkāyanas also became

1. Also *Khādira Gṛihya Sūtra*, III.2.31, *Kārshvaṁ tu Kaṭha-Kauthumāḥ*, referring to a rule of *andhyāya* approved both by the Kaṭhas and the Kauthumas.

2. Also included in *Naḍādi-gaṇa*, IV.1.99, with the *gaṇa-sūtra Śalaṅku alaṅkam cha*; the name Śālaṅki being given to Pāṇini himself in later writings; cf. also reference to the students of Śālaṅki, *Śālaṅker-yūnaśchhātrāḥ Śālaṅkāḥ*, *Bhāshya*, (IV.1.90;II.244).

3. Bābhrava of Prāchya and Śālaṅkāyana of Udīchya were geographically separated and Patañjali's remark should have been addressed to a

known as *Trikāḥ*, probably because of their being divided into three sub-schools (*Bhāshya*, V. 1.57-58).

Amongst other *Sāmaveda* teachers Pāṇini mentions Śauchivṛikshi and Sātyamugri (*sūtra* IV. 1.81) of whom the female descendants were called Śauchivṛikshī, Śauchivṛikshyā' and Sātyamugrī, Sātyamugryā respectively. Śauchivṛikshi appears as an ancient authority cited in the *Srauta-sūtra* of Maśaka (Weber, *H.I.L.*, p. 77). The Sātyamugris seem to have been a sub-division of the great Rāṇāyanīya School of the *Sāmaveda*, to whom Patañjali refers in connection with a phonetic peculiarity, *viz. ardha ekāra* and *ardha okāra* recognised in their Pārshada or Prātiśākhya work, (*Bhāshya*, I.22; also *Āpiśali Śikshā*). The name of Rāṇāyani occurs in the *Pailādi-gaṇa* (II.4.59), and there can be no doubt that they were known to Pāṇini who knew one of their sub-divisions, the Sātyamugris.

Kāṇṭheviddhi ('a descendant of Kāṇṭheviddhi') mentioned after the names of the above teachers (IV.1.81) was possibly also a teacher of the Sāmaveda, whose name occurs as an authority in the *Vaṁśa Brāhmaṇa* of the *Sāma-veda* (*Vedic Index*, I.146).

ATHARVAVEDA—Pāṇini mentions Ātharvaṇika as a student devoted to the study of a work called *Atharvan* which was enounced by the Rishi Atharvan (VI 4 174). Patañjali accepts Atharvan and Ātharvaṇa as genuine readings in the *Vasantādi-gaṇa* (IV.2.63), which according to Pāṇini were names of texts for study (*Tadadhīte tadveda*). Patañjali definitely mentions the *Āmnāya* and *Dharma* of the Ātharvaṇikas. The compound name *Mauda-Paippalādāḥ* in the *Kārta-Kaujapādi-gaṇa* represented two Schools of the *Atharvaveda*. Thieme attributes definite knowledge of the *Atharvaveda* to Pāṇini who mentions the form *ailayīt* (III.1.51) found only in *AV.*, VI.16.3 (Thieme, *op. cit.* p. 64). The

follower of an intervening Vedic School of the Bharata *Janapada*, likely of Āruṇi mentioned above.

Jājalas, a School of the *Atharvaveda* founded by Jājali, are mentioned by Kātyāyana in a *vārttika* to *sūtra* VI.4.144.

OTHER VEDIC SCHOOLS—Pāṇini also mentions by name certain other Vedic Schools, whose exact affiliations are not known, *e.g.* Taitila-Kadrū in *sūtra* VI.2.42 contains an allusion to the students of *āchārya* Titilin, also mentioned by Kātyāyana in the aforesaid *vārttika* to VI.4.144 (*Kāśikā, Taitili Jājalināvāchāryau, tatkrito grantha upachārāt Taitili-Jājaliśabdābhyām abhidhīyate, tam grantham adhīyate Taitilāḥ, Jājalāḥ*). Patañjali mentions Kraudāḥ and Kāṅkatāḥ as names of Schools (IV.2.66 ; II 286), of which the former appear to be students of Kraudi mentioned in the *Kraudyādi-gaṇa* (IV.1.80). The *Kāṅkata Brāhmaṇa* is referred to in the *Apastamba Śrauta-sūtra* (XIV.20.4) along with other unknown texts (Keith, *J. R. A. S.*, 1915, p. 498). The Schools of Karmanda and Kriśāśva which are known only from Pāṇini (IV.3.111), and those of Kāśyapa and Kauśika (IV.3.103) were confined to their *sūtra* works only, showing to what extent specialisation under the Vedic *Charaṇas* had advanced. The Kauśikas belonged to the *Atharvaveda*, but the affiliations of the other three are not known.

BRĀHMAṆA LITERATURE—The *Bhāhmaṇa* works were on a footing with the *Sākhās* in one respect, *viz.* they were represented by Vedic Schools comprising students who studied those texts. It is possible that some Vedic Schools did not evolve their own independent *Chhandas* texts or *Śākhās*, but depended on their compilation of *Brāhmaṇa* texts only. Of the names of Vedic Saṁhitās given above, many are traced in citations as Brāhmaṇa works. Similarly the activity of some Schools as pointed out above was confined to the composition of *sūtra* works only.

BRĀHMAṆAS OF THIRTY AND FORTY ADHYĀYAS—Pāṇini mentions two Brāhmaṇa works by the names of 'Thirty and Forty Adhyāyas', called *Traiṁśa* and *Chātvāriṁśa* respectively (*Triṁśach-chatvāriṁśator-Brāhmaṇe saṁjñāyāṁ ḍaṇ*, V.1.62). The *Kaushītakī Bhāhmaṇa* is of 30 and the

Aitareya of 40 *adhyāyas*. As Keith states : 'The *Kaushītakī Brāhmaṇa* and the *Aitareya* were both known to Pāṇini, who in his grammar (V.1.62) mentions the formation of the names of Brāhmaṇas with thirty and forty *Adhyāyas*. The same conclusion as to their relation to Pāṇini is clearly proved by their language which is decidedly older than the Bhāshā of Pāṇini, as Liebich has shown in detail for its verbal forms, and as is not disputed by any scholar.' (Keith, *Ṛigveda Brāhmaṇas*, *H. O. S.*, Vol. 25, p. 42).

OLDER BRĀHMAṆA WORKS—In *sūtra* IV.3.105 Pāṇini refers to *Brāhmaṇa* and *Kalpa* works enounced by older Ṛishis (*Purāṇa-prokteshu Brāhmaṇa-Kalpeshu*). As examples of older *Brāhmaṇa* works, Patañjali mentions the *Brāhmaṇa* works of the *Bhāllavins* and the *Śāṭyāyanins* (IV.2.104 ; II.296), to which the *Kāśikā* adds that of the *Aitareyins*. The *Bhāllavins* were a well-known school of the *Sāmaveda*, and Śāṭyāyana figures in the Vaṁśa list of Jaimini whose *Brāhmaṇa* work known as the *Jaiminīya Brāhmaṇa* is still extant. Of all the lost Brāhmaṇa works that of Śāṭyāyana has been quoted most frequently (B.K. Ghosh, *Fragments of Lost Brāhmaṇas*, p ii).

Talavakāra, a pupil of Jaimini, re-edited his teacher's work, which then became known as the *Talavakāra Brāhmaṇa*. It may be noted that Talavakāra is included in the *Saunakādi-gaṇa* (IV.3.106), as an author of a *Chhandas* work or Vedic *Sākhā*.

The *Hāridravika* and the *Sailāli Brāhmaṇas* were also older works known to Pāṇini, since Haridru as a pupil of Vaiśampāyana is implied in IV.3.104, and the name of Śilālin occurs in *sūtra* IV.3.110. The *Hāridravika Brāhmaṇa* was also known to Yāska (*Nirukta*, X.5).

Attention may also be drawn to Pāṇini's mention of the name Māshaśarāvin whose descendants were called *Māshaśarāvayaḥ* according to the suffix added to words of the *Bāhvādi* group (IV.1.96). In the *Chāndravṛitti*, Māsha-

śarāvin is one word, and so also in Hemachandra and Vardhamāna (*Māshaśarāviṇa risheḥ*, verse 206), but in the *Kāśikā* it is wrongly split up. The Drāhyāyaṇa and Lāṭyāyana Śrauta-Sūtras cite an old authority saying that the Māshaśarāvins were organized as a Vedic school having their own Brāhmaṇa work (B. K. Ghosh, *Frag. of Lost Brāhmaṇas*, p. 112).

YĀJNAVALKA - BRĀHMAṆA—On *sūtra* IV. 3. 105 (*Purāṇa-prokteshu Brāhmaṇa-Kalpeshu*) Kātyāyana has a *vārttika*, *Yājñavalkyādibhyaḥ pratishedhas - tulyakālatvāt*. 'Among the Brāhmaṇas and Kalpas proclaimed by the old, there is an exception with regard to Yājñavalkya and others, on account of contemporaneity and therefore Yājñavalkya's Brāhmaṇas are called, not *Yājñavalkinaḥ* but *Yājñavalkāni Brāhmaṇāni*'. This passage has often been discussed. The *Kāśikā* considers Yājñavalkya as a recent author (*achira kāla*). *Kaiyaṭa* clearly interprets the *vārttika* in the sense that the Brāhmaṇas of Yājñavalkya were of the same age as those of the older authors like Śāṭyāyana, and in order that they may not come under the scope of Pāṇini's rule, Pāṇini should have made an exception in their case. In his opinion this omission on the part of Pāṇini to exclude the name of Yājñavalkya from the operation of *sūtra* IV.3.105 is now made good by Kātyāyana. Patañjali has not made himself quite explict on the point, but in his remark, *etānyapi tulyakālāni*, the force of *api* becomes justified only when we understand Yājñavalkya as an ancient writer. Both Goldstücker and Eggeling accept this view (*Pāṇini*, p. 132; *SB*, Vol.I, Intro.). In view of this if we accept Yājñavalkya as an ancient teacher coeval in time with Śāṭyāyana and other older authors of *Brāhmaṇa* works, the question remains why did not Yajñavalkya also found a Vedic school similar to other older seers and why the principle of *Tad-vishayatā* which, according to Pāṇini, was an invariable feature of the *Chhandas* and *Brāhmaṇa* texts, and in some cases also of the *Kalpa sūtras* of older Ṛishis, as *Kāśyapinaḥ*, *Kauśi-*

kinaḥ, did not apply to the *Brāhmaṇa* texts promulgated by Yājñavalkya. Another *vārttika* on *sūtra* IV.2 66 ordains that the *adhyetṛi-veditṛi* suffix is not added after the name of Yājñavalkya and others (*Yājñavalkyadibhyaḥ pratishedhaḥ*, II.285). The question arises why the *Yājñavalkya Brāhmaṇas*, if they were old, were not represented by their *Charaṇa* students like the other older Brāhmaṇas. The answer to this question largely depends on what we understand by *Yājñavalkāni Brāhmaṇāni*; or as Eggeling has put it: 'whether or not the *Yājñavalkāni Brāhmaṇāni* form part of the text of the *Śatapatha* which has come down to us, and what exact portions of that text we have to understand by this designation'. He was inclined to the view that we should look for them in certain portions of the last Book (or Books) in which Yājñavalkya figures so prominently. Weber in his modified opinion accepted 'that it is to this Yājñavalkīya-kāṇḍa (XIV Book of *Śatapatha*) that the *vārttika* to Pāṇini (IV. 3 105) refers when it speaks of the *Yajñavalkāni Brāhmaṇāni* as not *purāṇa-prokta*, but *tulyakāla*, *i. e.* 'of the same age as Pāṇini.' (*H. I. L.*, p. 129). Weber was, however, not disposed to regard Yajñavalkya himself or the *Śatapatha Brāhmaṇa* as being of the same age with Pāṇini. The last *Kāṇḍa* was so named not because it was produced by Yajñavalkya himself, but because it gives prominence to him.

THE GENESIS OF THE ŚATAPATHA—The whole of the *Śatapatha Brāhmaṇa* of 100 *adhyāyas* is now generally attributed to Yājñavalkya, but the fact remains that the present text of the *SB.* was a composite work made up of different portions of ritualistic texts. The grammatical literature throws some light on this textual problem of the *SB.* Its first nine Books consist of two broad divisions, Books I-V deal with *Ishṭis* and *Paśubandha*, being a complete exposition of Havir-Yājña and Soma sacrifices. These were subjects of special study as shown by the example *ishṭi-paśubandham adhīte* (*Kāśikā*, II.1 6). In these Books Yājñavalkya is cited as an authority. The next four

Books deal with the Fire-ritual (*Agnichayana*) and refer to Śāṇḍilya more frequently than to Yājñavalkya. These Books were also separate subjects of study as shown in the expression *sāgni adhīte* (II. 1. 6, *Kāśikā*); or *kashṭo'gniḥ*, 'difficult to master is the Agni text' VII.2.22). These nine Books contain sixty *adhyāyas*, and may be identified with *Shashṭipatha* mentioned by Patañjali in an old *Kārikā* (II.284). Book X (*Agnirahasya*) deals with the same subject as the preceding four *kāṇḍas*; and here elso Śāṇḍilya and not Yājñavalkya figures as authority. The XI Book is called *Saṅgraha*, as it contains a summary of the preceding ritual. Kāṇḍas XII-XIV treat of miscellaneous subjects and are called *Parishishṭa* or Appendices. The last of these contains the famous philosophical discourse of Yājñavalkya. The text so constituted finds corroboration from the *Mahābhārata* which speaks of Yājñavalkya as the author of certain portions of the *Satapatha* described as (a) Rahasya (Ritual, Book X), (b) *Saṅgraha* (Book XI) and (c) *Pariśesha* (Books XII-XIV; Śāntiparvan, 318. 16). *Saṅgraha* mentioned by Pāṇini in the *Ukthādi-gaṇa* (IV.2.60) as the name of a treatise, seems to refer to the XI Book of the *Satapatha*. A student of *Saṅgraha* was known as *Sāṅgrahika*. These portions of the *Satapatha*, *viz*. *Agni-Rahasya*, *Saṅgraha*, and *Parishishṭa* may be taken to be what were known as the Yājñavalka-Brāhmaṇas. The term Madhyama was applied to Book XII, showing that the Books preceding and following it were parts of one whole. The *ŚB*. was rather a voluminous text. Those who mastered its earlier portions consisting of 60 Chs. were designated as *Shashṭipathika*; while students studying its 100 Chs. were called *Satapathika*. The names *Shashṭipatha* and *Satapatha* appear analogous to *Bhārata* and *Mahābhārata* existing side by side for some time.

From their very nature the last five Books of 40 Chs. could not form the basis of an independent *Charaṇa* text, and therefore the rule of *tad-vishayatā* did not apply to them. These later portions attributed to Yajñavalkya were

not given the same status as that of the older established works of Śāṭyāyana and Bhāllavin. Kātyāyana, however, as a follower of the Mādhyandina School of the *Sukla Yajurveda* and of its Brāhmaṇa work the *Satapatha*, did not consider the last five Books or 40 Chs. as of less authenticity in his time. He, therefore, joins issue with Pāṇini for not treating the Yājñavalkya Brāhmaṇas as *purāṇa-prokta*.

ANUBRĀHMAṆA (Supplementary Brāhmaṇas). These supplementary texts formed special subjects of study by students whom Pāṇini calls *Anubrāhmaṇī* (*Anubrāhmaṇād iniḥ*, IV.2.62). The *Kāśikā* explains *Anubrāhmaṇa* as a work taking after a Brāhmaṇa (*Brāhmaṇa-sadṛiśo'yam granthaḥ*). Bhaṭṭa Bhāskara in his commentary on the *Taittirīya Saṁhitā* (I. 8.1) refers to a portion of the *Taittirīya Brāhmaṇa* (I. 6.11.1) as *Anubrāhmaṇa* (Weber, *H. I. L.*, p. 82, note). Books XIV and XV of the *Sāṅkhāyana Srautasūtra* were sometimes reckoned as parts of the *Kaushītakī Brāhmaṇa*, which were incorporated into its Kalpa by Suyajña. The commentator Ānartīya Brahmadatta calls them Anubrāhmaṇa (*Sānkh. S.*, XIV. 2.3 ; Bhagavaddatta, *Vaidika Vāṅmaya*, I. 113). Professor Caland discovered a special Brāhmaṇa work called *Anvākhyāna*, which belongs to the *Vādhūla Sūtra* and contains secondary Brāhmaṇas which may also be considered as *Anubrāhmaṇa* (Bhagavaddatta, op. cit., II. p. 34). (Cf. *Baudh.* G. S., III. 1.21-24).

UPANISHAD—It has been argued that Pāṇini does not refer to the Upanishads. So far as he is concerned, the word *Upanishad* forming part of the *Ṛigayanādi* group (IV. 3.73) serves the same purpose as if it were read in a *sūtra*. On the basis of linguistic evidence Liebich had come to the conclusion that 'Not only the *Aitareya Brāhmaṇa*, but also the *Bṛihadāraṇyaka Upanishad* are certainly older than Pāṇini.' (*Pāṇini*, p. 37). The fact is that Pāṇini shows an acquaintance not only with the *Aitareya* and *Kaushītakī Brāhmaṇas* (cf. V. 1.62) and the *Anubrāhmaṇas* of a later date, but also with the *Srauta Sūtras*

(IV. 3.105) and the *Dharma Sūtras* which were developed as special subjects of study inside *Charaṇas* (IV. 2.46). Pāṇini actually mentions the term Upanishad in one of the *sūtras* (*Jīvikopanishadāvaupamye*, I. 4.79), where it denotes 'that which is secret.' This accords with its meaning known to Kauṭilya under the head *Aupanishadikam*. A term used originally as the name of esoteric religious texts, had acquired a pejorative sense by the time of Pāṇini. Keith also concludes on the basis of *sūtra* I. 4.79 that Pāṇini was acquainted with the Upanishads (*Tait.* S., H. O. S., p. clxvii).

KALPA LITERAURE—Pāṇini refers to Kalpa works promulgated by ancient authors (*Purāṇa-prokta Kalpa*, IV. 3.105), of which the Paiṅgī Kalpa and the Aruṇaparājī Kalpa are cited as examples. Pāṇini refers to works of two older Ṛishis named Kāśyapa and Kauśika (*Kāśyapa-Kauśikābhyām ṛishibhyāṁ ṇiniḥ*, IV. 3.103), which Kātyāyana takes to be Kalpa works. These were studied in Vedic *Charaṇas* by students called after them *Kāśyapinaḥ* and *Kauśikinaḥ*. It is also pointed out that the literary activity of these two old Schools was confined to their Kalpa Sūtras only round which centred a group of their students and teachers (*Kāśyapa-Kauśika-grahaṇaṁ cha Kalpeniyamārtham*, II. 286). We know of a Kauśika Sūtra of the Atharvaveda.

Patañjali in addition knowns of a Parāśara Kalpa, which must have belonged to the Parāśara School of the Ṛigveda mentioned by Pāṇini.

But the exigencies of sacrificial religion required special treatises bearing on different parts of the ritual, and Pāṇinl mentions several types of commentaries written with the avowed purpose of bringing sacrificial ritual within the easy reach of priests. Special commentaries are mentioned on important Soma sacrifices, and on the different kinds of *yajñas*, such as the Pākayajña, Haviryajña, etc. (IV.3.68). The preparation of the sacrificial cake offered to the deities was of great practical importance and special handbooks called

Puroḍāśika explaining its details were written. Similarly others known as *Pauroḍāśika* were compiled with a view to explain the particular *mantars* that were used in the Puroḍāśa ceremony (IV. 370). Commentaries on the Adhvara sacrifices were callad *Ādhvarika*, and those which treated of preparatory ceremonies preceding regular sacrifices were known as *Pauraścharaṇika* (IV. 3.72). The significance of the commentary called *Prāthamika* is not clear; possibly it treated of Puraścharaṇa rites (IV. 3. 72). Illustrating the word *dvyachaḥ* of this *sūtra* the *Kāśikā* gives two interesting examples, *viz.*, *Aishṭika* and *Pāśuka*, the former was a commentary on the Darśa-Paurṇamāsa Ishṭis and the latter on the animal sacrifices. These two are covered respectively by Books I-II and III-V of the *Śatapatha Brāhmaṇa*. It appears that the course of sacrifical studies was planned topically, for on *sūtra* II.1.6 the *Kāśikā* speaks of a student studying the portions known as Ishṭi-paśubandha (*seshṭi-paśubandham adhīte*). The advanced course in sacrifical lore included the Fire ritual or *Agnichayana* (Books VI-IX of *Śatapatha*) and the expression *sāgni adhīte* pointed to the final stage in the study of that subject.

LITERATURE ON RECITATION—Proper recitation of Vedic texts (*pārāyaṇa*, V.1.72) required methodical training. It involved mastery of the Pada and Krama texts as implied in Pāṇini's words *Padaka* and *Kramaka* to denote students devoted to such studies (IV.2.61). Pāṇini also refers to the Pada text of the *Ṛigveda* by Śākalya (I.1.16), and to a work known as *Ārgayana* which was a commentary on the methods and details of the Pārāyaṇa of the Ṛigveda.

There are names of other phonetical works treating of Vedic pronunciation and recitation. The *Ukthādi-gaṇa* (IV.2.60) refers to students of Saṁhitā, Pada, and Krama. The word *Krametara*, was applied to the recitation of texts 'other than Krama.' The technical term for instruction and exercise in recitation was *charchā* (III.3.105; also in the *Ukthādi* group). The *Charaṇavyūha* refers to instruction

in recitation depending on (1) *charchā* (exercise), (2) *śrāvaka* (the teacher reciting), (3) *charchaka* (the pupil repeating), and (4) *śravaṇīyapāra* (completion of recitation). A student who qualified in *charchā* (regulated recitation) was called *charchika* (IV.2.60).

Pāṇini uses *Pada-vyākhyāna* for a text explanatory of the Pada-pāṭha, and its derivative *Pāda-vyākhyāna* denoted a commentary on such a text (*Ṛigayanādi-gaṇa*, IV.3.73). Such a commentary was intended to explain every word of the Vedic text, similar to the style of the *Śatapatha Brāhmaṇa* explaining the first eighteen Books of the *Yajurveda*. These commentaries were also known as *Anupada* works, of which a student was called *anupadika* (IV.3.60). Śaunaka mentions the *Anupada* work of the *Yajurveda*, which Mahīdāsa defines as the work which explained the text word for word (*Anupade anyapadam kartavyam*). One of the Sāma *sūtras* is *Anupada-sūtra* in ten *prapāṭhakas*, which explains the obscure passages of the *Pañchaviṁśa Brāhmaṇa* and of the *Shaḍviṁśa Brāhmaṇa*, step by step (Weber, *H.I.L.*, p. 80). *UKTHA*—The *Uktha* treatise mentioned at the head of the *Ukthādi* group (IV.2.60) of which the students were called *aukthika*, appears to be a work partaking of the nature of *Pārshada* works of the *Sāmaveda*. Patañjali writes : 'What are Ukthas ? Sāmans are the Ukthas. If so, all chanters of Sāmans will be ealled *aukthika*. No, there is no fault if we take *Uktha* in the sense of a work dealing with Uktha' (*tādarthyāt tāchchabdyam, Bhāshya*, IV.2.60; II.283). Kaiyaṭa following Patañjali informs us that one of the Sāma-lakshaṇa treaties was known as *Uktha*. A selection of Ṛik verses for thhe purpose of recitation suited to each particular occasion bears the name *śastra* to be recited by the Hotṛi priest, and a similar selection of different *Sāmans* made into a group to be recited by the Udgātā priest was called *Uktha* (from *vach*, to speak) (Weber, *H.I.L.*, p. 67). It must have been the task of the Sāmaveda teachers to fix rules for the making of Uktha songs. The texts which dealt with this subject were also called *Uktha*, and must have been

considered important among the *lakshaṇa* works of the Sāmaveda.

JYOTISHA—Some works on Jyotisha were possibly known, as we find reference in the *sūtras* to belief in divination from bodily signs (III.2.53), and also to fortune-telling by soothsayers (I.4.39, *Rādhīkshyor-yasya viprasnaḥ*). The mention of *utpāta, saṁvatsara, muhūrta* and *nimitta* as subjects of study in the *Ṛigayanādi-gaṇa* (IV.3.73) indicates the study of astronomy and omens. Early Buddhist literature is full of references to divining by means of signs (*nimittam*) and fortune-telling from marks on the body (*lakkhanam*, the word being used in an identical sense by Pāṇini in III.2.52-53), which were forbidden for monks. Five topics of study included in the *Ṛigayanādi group* (IV.3.73) are also found in the *Brahmajāla Sutta, viz.* (1) *Nimitta*, (2) *Uppādo* (= *utpāda* in the *gaṇa*), (3) *Aṅgavijjā*, (*Aṅgavidyā*), (4) *Vatthuvijjā* (determining whether the site for a proposed house is lucky or not; *Vāstuvidyā* in the *gaṇa*) and (5) *Khattavijjā* (= *Kshatravidyā* of the *Gaṇa-pātha* which is also mentioned in the list of sciences in the *Chh. Up.*, VII.1.4) (cf. *Brahmajāla Sutta*, Rhys Davids, Trans. pp. 16-18, f.n.). Buddhaghosha renders *Uppāda* as 'the portents of the great ones, thunderbolts falling, and so on' caused by divine agency (cf. *Jātaka*, I.374 ; and commentary on *Uppāda*). Kauṭilya mentions the *naimittikas* and *mauhūrtikas* (*Arth.*, p. 23), and Megasthenes also refers to experts who gathered together at the beginning of the year to forewarn the assembled multitudes about droughts and wet weather, and also about propitious winds', (*Diod.* II.40, M'Crindle, Frag.I). These latter correspond to the *Sāṁvatsarikas* of Pāṇini (IV.3.73, *Gaṇa-pāṭh*).

PHILOSOPHICAL LITERATURE—The Pāṇinian epoch was already preceded by intense philosophical activity. The implications of his reference to philosophers of the Āstika, Nāstika, and Daishṭika schools (IV.4.60) have been shown above, the last one being represented by the followers of Maskarī Gośāla, and the second by such thinkers as the

Lokāyatikas. The Lokāyata doctrine was of high antiquity and its second place in the *Ukthādi-gaṇaa* may be an authentic reading. *Nyāya*, mentioned thrice (III.3.122; III.3.37, IV.4.92), stands not for the philosophical system of that name, but for justice or customary law; however, some knowledge of its dialectical terminology is foreshadowed in the *sūtra Nigrihyānuyoge* VIII.2.94 (cf. *Nyāya*, V.2.1; V.2.23. For *nigrihya* as a term of *vāda* or disputation, cf. also Āraṇyaka-parva, 132.13; 17). The term *Mimāṁsā* occurs in the *Gaṇa-pāṭha* in relation to its students called *Mimāṁsaka*, which points to the subject being studied as a system of philosophy (IV 2.61, also III.1.6, *mimāṁsate*).

BHIKSHU SŪTRAS—Pāṇini refers to two Vedic Schools of *Bhikshu sūtras* founded by Pārāśarya and Karmanda (IV.3.110-111), their students being called *Pārāśriṇaḥ* and *Karmandinaḥ* respectively. Weber sees in it an allusion to pre-Buddhist Brahmanical mendicants (*H.I.L.*, p. 305, foot-note). We know nothing of the work of Karmanda, but the *sūtras* of Pārāśarya may have been the *Vedanta sūtras* which were based on the philosophical doctrine developed in the *Upanishads*. On the other hand it is also probable that the *Bhikshu sūtras* of Pārāśarya referred to some Sāṅkhya treatise. Pañchaśikha is spoken of a *Bhikshu* and of Parāśara *gotra* (Śāntiparva, 320.24), and being a historical teacher of out-standing merit in the Sāṅkhya tradition is believed to have written a work in prose Sūtras in which his doctrine learned more towards Vedānta. (Keith, *Sāṅkhya System*, p. 49). The Chinese tradition makes him the author of the *Shashṭitantra* itself (*ib.*, p. 48).

In either case these early texts must be regarded as the product of a school rather than that of an individual author. The School gave a name both to its members and literary productions. As Pāṇini informs us, all Chhandas and Brāhmaṇa works, two *Kalpa-sūtras*, two *Bhikshu-sūtras*, and two *Naṭa-sūtras* derived their names after the founder of schools, which is the essence of the *tad-vishayatā* principle.

Texts attributed to individual authors like Āpiśali and Pāṇini naturally did not admit of growth like those produced in the Vedic schools, which latter incorporated the subsequent graftings on the original text. We may recall that the Pārāśarya school was originally affiliated to a *Charaṇa* of the *Ṛigveda* in the Śākhā of the Bāshkalas. Parāśara (fater of Pārāśarya) is also mentioned as the founder of a School of *Kalpa-sūtras* of which the students were called *Pārāśarakalpika*, as stated by Patañjali (IV.2.60; II.284). These latter were called *Pārāśarāḥ* in distinction to those studying the *Bhikshu-sūtras* and called *Pārāśariṇaḥ*.

NAṬA-SŪTRAS—The word *Nāṭya* occurring in *sūtra* (IV.3.129) refers to some treatise for the use of actors. As the *Kāśikā* explains, the *Nāṭya* text had the status of an *āmnāya* pointing to its growth under a Vedic *Charaṇa*. We have already referred to the development of *Naṭa-Sūtras* in Pāṇini's time under the Schools of Śilālin and Kriśāśva (IV.3.110-111). The present treatise on dramaturgy known as the *Nāṭya-śāstra* of Bharata describes the *Naṭas* as *Sailālakas*. The corresponding Vedic term used by Pāṇini is *Sailālinaḥ Naṭaḥ*. It seems that Bharata's *Nāṭyaśāstra* was the product of the dramatic school of Śilālin which originated in the Ṛigvedic *Charaṇa* founded by that teacher, who was also the author of a Brāhmaṇa work called *Śailāli Brāhmaṇa* cited in the *Apastamba Śrauta Sūtra*, VI.4.7.

Patañjali speaking for later times refers to Naṭa teachers (*ākhyātā*) of dance initiating novices (*ārambhakāḥ*) in the art not through texts (*granthārtha*), but by their direct method of stage-acting (I.4.29; I.329, *ātaśchopayogo yadārambhakā raṅgaṁ gachchhanti naṭasya śroshyāmaḥ*). This instruction, however, did not merit the honorific epithet *upayoga*, a term reserved for instruction under the approved religious system of teachers and initiated pupils.

Pāṇini mentions *nāndīkara* (III. 2. 21), a person who sings the *Nāndī* or prologue to a drama.

ĀKHYĀNA AND KĀVYAS—Pāṇini refers to *ślokas* and *gāthās*, and to their authors as *ślokakāra* and *gāthākāra* (III.2.23). He also mentions *Akhyāna* or the literature of stories (VI.2.103), as examples of which Patañjali and the *Kāśikā* cite texts dealing with the legends of Rāma (i. e. Paraśurāma) and Yayāti, each consisting of two parts, called *Pūrvādhirāma*, *Aparādhirāma*, and *Pūrva-yāyāti*, *Apara-yāyāta* respectively. The latter pair of names occurs in the colophon of the Yayāti legend in the *Mahābhārata* (Adiparva, Poona, Chs. 70-80 *Pūrva-yāyāta*, and 81-88 *Uttara-yāyāta*).

As to *kāvyas* Pāṇini mentions (1) *Śiśukrandīya*, (2) *Yamasabhīya*, and (3) *Indrajananīya* as actual works (IV.3. 88). The name *Śiśukrandīya* suggests that the poem related to the Birth of Krishṇa, literally 'a work dealing with the crying of child (*śiśu*, Kṛishṇa at the time of birth).' The second name was probably that of a drama dealing with the subject of Yama's Assembly (*Yama-sabhā*). The third name *Indrajananīya* was that of a work dealing with the subject of Indra's birth and his slaying of the demon Vṛitra, being an ancient legend in which Tvashṭā and Dadhīchi also played a part.

MAHABHĀRATA—Pāṇini knows of a *Bhārata* and a *Mahābhārata*, (VI. 2. 38), and refers to its three principal characters, Vāsudeva, Arjuna (IV. 3. 98) and Yudhishṭhira (VIII.3.95). This admittedly old reference to the Epic throws light on its evolution. In a well-known passage of the Āśvalāyana Gṛihyasūtra, the two names, *Bhārata* and *Mahābhārata* are similarly mentioned together (III.4). Utgikar after examining the passage critically observed that 'the mention of the *Bhārata* and the *Mbh.* in the *AG Sūtra* is to be held as textually genuine and justified by other important considerations' (*Mbh. in ĀG Sūtra*, Proc. 1st Oriental Conf., Vol. II, p. 60). The *Bhārata* was the original work of about 24,000 stanzas attributed to Vyāsa, which was preserved and popularised by the bards. The

Bhṛigus, later, expanded the *Bhārata* adding to it considerable political, philosophical and religious matter (*Dharma* and *Nīti*) and legends (*Upākhyanas*) (V. S. Sukthankar, The Bhṛigus and the Bhārata, a text-historical study, *ABORI.*, XVIII, pp. 15-76). Āśvalāyana's mention of the Epic as a text to be recited may be due to the fact that Āśvalāyana was a direct pupil of Śaunaka whose name is closely associated with the final redaction of the *Mahābhārata*.

VYĀKARAṆA—The *Ashṭādhyāyī* extant as the only early Vedāṅga text on *Vyākaraṇa* supplies some reliable data regarding the history of grammatical studies in ancient India.

Grammar is called both *Śabda* and *Vyākaraṇa*, and a grammarian *śabdakāra* (III.2.23) and *vaiyākaraṇa* (VI.3.7). *PREVIOUS GRAMMARIANS*—The period between Yāska and Patañjali witnessed intensive creative activity in the field of grammar. No less than sixty-four teachers are cited as authority in the *Prātiśākhyas*, *Nirukta* and *Ashṭādhyāyī* (cf. Max Muller, *History of Skt. Lit.*, p. 142, where a list is given.) Yāska regards *Nirukta* as a study supplementary to grammar (*Vyākaraṇasya kārtsnyam*), which position remained unchanged until the time of Patañjali who found grammar to be the foremost of the Vedāṅgas.

Pāṇini mentions by name the following authorities (*pūrvāchāryas*) whose works he had most probably consulted:

(1) *Śākaṭāyana* (III.4 111; VIII.3.18; VIII.4.50), a grammarian, who is quoted by Yāska in support of the view that all nouns are derived from verbs. His dominant position is indicated by an illustration preserved even in the Pāṇinian system, e.g. *Anuśākaṭāyanaṁ vaiyākaraṇāḥ* (*Kāśikā* on I. 4. 86), 'all grammarians rank next to *Śākaṭāyana*'.

(2) *Śākalya* (I.1.16; VI.1.127; VIII.3.19; VIII.4.51), said to be the author of the *Padapāṭha* of the *Ṛigveda*; the *iti* used by him in the *Padapāṭha* is mentioned by Pāṇini as *anārsha*, non-Vedic (I.1.16), and is also referred to by the term *upasthita* (VI.1.129). Pāṇini mentions a *padakāra* in *sūtra* III.2.23, who may be Śākalya.

(3) *Āpiśali* (VI.1.91). He was an important predecessor of Pāṇini. Patañjali refers to his students in the compound *Apiśala-Pāṇiniya-Vyāḍiya-Gautamīyāḥ*, stating that these names were arranged in a chronological sequence (VI.2.36; III.125). The *Kāśikā* records that Āpiśali's treatise dealt with long and short vowels (*Apiśaly-upajñaṁ gurulāghavam*, VI.2.14).

(4) *Gārgya* (VII.3.99; VIII.3.20; VIII.4.67). His view is cited by Yāska on nouns being verbal derivatives. The *Ṛik* and *Yaju Prātiśākhyas* also refer to him.

(5) *Gālava* (VI.3.61; VII.1.74). His name occurs in the *Nirukta* and the *Aitareya Araṇyaka* (V.3). The *Saiśiri Sikshā* refers to Gālava as a pupil of Śaunaka, and to Śākaṭāyana of *Saiśiri* (Pt. Bhagavaddatta, *Vaidika Vāṅmaya*, I.83). Gālava is also remembered as the redactor of a revised text of the Kramapāṭha of Bābhravya, and also author of a text on phonetics (Śāntiparvan, 330.37-38).

(6) *Bhāradvāja* (VII.2.63). This school continued its activity much longer, as Patañjali refers to its *vārttikas* several times. Bhārdvāja is also cited in the *Ṛik* and the *Taittirīya Prātiśākhyas*.

(7) *Kāśyapa* (I.2.25; VIII.4.67); he is also cited in the *Yaju* and the *Taittirīya Prātiśākhyas*. (Cf. Śāntiparva, 342-89).

(8-10) *Senaka* (V.4.112); *Sphoṭāyana* (VI.1.123); *Chākravarmaṇa* (VI.1.130). The names of these teachers are not found outside the *Ashṭādhyāyī*.

Pāṇini also refers to the views of Teacher in general *Āchāryāṇām*, (VII.3.49; VII.4.52); including both the Eastern (*Prāchām*) and the Northern (*Udīchām*) grammarians. *PŪRVĀCHARYA-SŪTRAS*—Pāṇini by incorporating the grammatical contributions of previous writers into his system practically threw them into oblivion. There are, however, a few exceptions. Kātyāyana refers to a *pūrva-sūtra* in his *vārttika* on IV.1.14 (II.205), and the comments

of Patañjali on it suggest that Pāṇini's *sūtra* (*Anupasarjanāt*) was borrowed from an older grammarian. Patañjali quotes a *kārikā* referring to a *pūrva-sūtra* in which *varṇa* was designated as *akshara* (*Bhāshya*, I.36).

Kaiyaṭa in his comment on II.3.17 gives an alternative reading of the *sūtras* as it existed in the grammar of Āpiśali (*Manyakarmaṇy-anādara upamāne vibhāshāprāṇishv-iti Apiśalir-adhīte sma*). The source of Kaiyaṭa appears to be some older commentary. Again, Patañjali in his comment on a *vārttika* to *sūtra* I. 3.22 makes an illustrative statement, *viz. Astiṁ sakāram ātishṭhate*, which is borrowed by the *Kāśikā*. The *Nyāsa* attributes this peculiarity of taking the root *as* as only *s* (*sakārmātram*) to *āchārya* Āpiśali. Patañjali commenting on a *ślokavārttika* referring to *Apiśali-vidhi* (IV. 2.45 ; II. 281) quotes a *sūtra* of that grammarian, *Dhenuranañi* (*kam utpādayati*), which proves that the *anubandha* in *nañ* retained by Pāṇini was in fact invented by his predecessors. The grammar of Āpiśali must have continued along with that of Pāṇini upto the time of Patañjali at least. Kātyāyana refers to students studying the work of Āpiśali (*Pūrva-sūtranirdeśo vā Apiśalamadhīta iti*, Kāt. IV. 1.14.3), and Patañjali even speaks of female Brāhmaṇa students of the Apiśali school (*Āpiśalā Brāhmaṇī*). The *Kāśikā* notes a different reading of Pāṇini's *sūtra* VII. 3.95, which even Patañjali had not noticed (*Apiśalāśturustuśamyamaḥ sārvadhātukāsu chchhandasīti paṭhanti Kāśikā*).

A *sūtra* of Kāśakṛitsṇa was known to Kātyāyana according to Kaiyaṭa (*Kāśakṛitsnasya 'Pratyottara-padayoḥ' iti sūtram*, II. 1.51, *vār*.). His grammatical work was named after him as *Kāśakṛitsna*, which consisted of three *adhyāyas* (*Bhāshya*, I. 12 ; *Kāśikā* V. 1. 58). Again, Kātyāyana's Rauḍhyādi for Pāṇini's Krauḍyādi (IV. 1.80) was according to Kaiyaṭa taken from some *pūrva-sūtra*. These references to previous grammarians are, however, few and do not give sufficient data for assessing Pāṇini's indebtedness to them. The ancient illustration *Pañcha-vyākaraṇah*, (*Kāśikā*

on a *vārt.* to IV. 2.60), 'a student of Five Grammars must have had in view the grammatical treatises of Śākaṭāyana, Āpiśali, Bhārdvāja (= Indra system), Pāṇini and Kāśakṛitsna, these names being obtained by omitting Chandra, Amara and Jainendra from the traditional list of eight.

GRAMMATICAL TERMS BEFORE PĀṆINI (PŪRVĀCHARYA SAMJÑĀS)—Some of the technical grammatical terms from Pāṇini's predecessors were preserved in his time and later, as seen specially in the *vārttikas* of Kātyāyana. A list of such technical terms, some of which have also been used by Pāṇini in the *Ashṭādhyāyī*, is given below :

1. *Adyatanī* = *Luṅ* (*vārt.* on II. 3.4 ; III. 2.120).

2. *Abhinishṭāna* (VIII. 3.36) = *visarjanīya* (Dr. Sūryakanta, *Punjab Oriental Research Journal*, Vol. I, pp. 13-18 cites all the relevant authorities).

3. *Ātmanebhāshā* = *Ātmanepada* (*Bhāshya*, VI. 3.7-8).

4. *Ārdhadhātukā* = *Ārdhadhātuka* (II. 4.35 ; I. 484).

5. *Āṅ* = *ṭā* (III. 343, 387 ; VII. 3 120).

6. *Upagraha* = *Ātmenepada* (Kaiyaṭa on *vārt.* 5 on III 2. 127 ; II. 130).

For Jinendrabuddhi *Upagraha* primarily means a particular action or a peculiarity in an action suggested by the verbal suffixes. As these suffixes are Ātmanepada or Parasmaipada, the word *Upagraha* is secondarily applied to these two kinds of suffixes also (*Nyāsa* on III. 1. 85). According to the *Kāśikā*, *Upagraha* was a *pūrvāchārya saṁjñā* for the sixth case-ending (*tatra upagraha iti shashṭhyantar eva pūrvāchāryopachareṇa gṛihyate.*, VI. 2.134).

7. *Upachāra* = the *s* in place of *visarga* in *ayaskumbha*, etc. (Kāt. on IV. 1.1., Pat. II. 193, explained by Nāgeśa ; also *Kāśikā*, VIII. 3.48). The term is known to the *Ṛik Prātiśākhya* and also *Atharva Prātiśākhya*, Viśvabandhu edn., III. 1.7).

8. *Upasthita=anārsha iti, i. e. iti* of *Padapāṭha*. This term is used by Pāṇini without explaining it (VI. 1.129). Patañjali explains its meaning as *anārsha iti* of I.1.16. This seems to be a technical term peculiar to the *Ṛik Prātiśākhya* (X.12, *Upasthitaṁ seti-karaṇam*. Cf. also *vārt*. on VI. 1. 130).

9. *Ghu = uttarapada* (*Bhāshya*, III. 229, 247, 318 ; *kimidam ghoriti ? uttarapadasyeti*). Kielhorn suggested that *Ghu* must be *Dyu* (*Ind. Ant.* XVI. 106).

10. *Karma = aparisamāpta karma* (*Bhāshya*, I. 336).

11. *Charkarīta = yaṅ luṅanta* (*Bhāshya* on VI. 1. 6 and VII. 4.92, quoting a verse explained by Haradatta ; also *Nirukta*, II. 28 ; and *Dhātu-pāṭha* at the end of Adādigaṇa).

12. *Chekrīyita = yaṅ* (Pat. II. 232 ; Kaiyaṭa ; a term for intensive).

13. *Ḍu = Shaṭ saṁjnā* (*vārt*. 43 on I. 4.1 ; 304).

14. *Taṇi = Saṁjnā chhandasoḥ* (Pat. II.99). Pāṇini prefers to use the longer term *saṁjnā-chhandas* in *sūtra* VI.3.63 in place of the shorter *taṇi*.

15. *Dhrauvyārtha = akarmaka*. Pāṇini uses it in III. 4.76 without explaining its meaning (cf. *śloka-vārttika* on 1.4.50, *dhruvayukti*, which the *Pradīpa* explains as *akarmaka*).

16. *Nāma = Prātipadika*, an old popular *saṁjnā* used by *Nirukta* I. 1 ; and also Pāṇini, IV.3.72 who refers to it in connection with the name of a treatise called *Nāmika*.

17. *Nyāyya = utsarga* (Pat. I.439 ; Kaiyaṭa. Cf. also *Ṛik. Prāt.* explained by Uvaṭa as *Utsarga*).

18. *Parokshā = liṭ* or *Paroksh-bhūta* (*śloka-vārt.* on I.2.18; I. 199 ; Kaiyaṭa).

19. *Prakrama = uraḥ-kaṇṭha-śiraḥ*, places of utterance or *sthāna* (*vārt.* on I.2.30, explained by Patañjali, I.207).

20. *Pratikaṇṭha = nipātana*, an irregular formation (*Ṛik. Prāt.*, I.54). Pāṇini has used it in connection with a *taddhita* suffix, *pratikaṇṭhaṁ, grihaṇāti, prātikaṇṭikaḥ*, IV.4.40, where it is juxtaposed with *paurvapadika* and *auttarapadika*

and may denote a grammarian or his work dealing with the snbject of *nipātana*, words of irregular formations such as *prishodarādi*, which according to Pāṇini should be learnt in the same regular form in which they were taught (*yathopadishṭa*, VI.3.109).

21. *Pratyaṅga = antaraṅga* (*Bhāshya*, VI.3.138 ; Kielhorn, *Ind. Ant.*, XVI. p. 102).

22. *Prasava = pumān*, masculine (*Bhāshya*, I.245).

23. *Prasaraṇa = samprasāraṇa* (*vārt.* 14 on I.1.3 ; I.50).

24. *La = luk* (*Bhāshya*, V.2.37 ; as explained by Haradatta on II.2.37, *lukaḥ esha pūrvāchārya-saṁjnā*).

25. *Laḥ = lakāras*. Pāṇini uses the term in III.4.69 (cf. the *śloka-vārtika* on I.4.51 ; I.335). The system of *lakāras* appears to be Pāṇini's own creation in place of the older terms like *Bhavantī* (*Laṭ*). *Śvastanī* (= *Luṭ*. Kāt. on III.3.15). *Bhavishyantī* = *Lṛiṭ*, Kat. III.3.15), *Naigamī* (probably *Leṭ*, cf. *Atharva Prāt.*, II.3.2), *Preshaṇī* (*Loṭ.*, *Atharva Prāt.* II.1.11 ; II.3.21), *Hyastanī* (*Laṅ*, *Atharva Prāt.*, III,2.5), and *Adyatanī* (*Luṅ*, Kāt. II.4.3.2 ; III.2.102.6 ; VI.4.114.3 ; and *Atharva Prāt.*, II.2.6).

26. *Vyakti = liṅga* (used by Pāṇini in the *sūtra-kāṇḍa*, I.2.51, but not explained, as perhaps it was not necessary for he has rejected the *sūtra*).

27. *Vināma = ṇatva* (Kāt. on Śivasūtra 3-4 ; I.25).

28. *Vṛiddha = gotra* ; Patañjali points out that Pāṇini has borrowed this term from an earlier grammar (*Bhāshya*, I.248 on I.2.68), and *Kāśikā* also cites an old *sūtra* in which it had been used (*Apatyam antarhitaṁ vṛiddham*, I.2.65). Kātyāyana also uses it in a *vārt.* on IV.1.90, and his definition of *gotra* on IV.1.163 appears to be cited from an earlier grammar.

29. *Saṁkram* = a term for *kit* and *ṅit* suffixes, prohibiting *guṇa* and *vṛiddhi* (*Bhāshya*, I.48 aud I. 1.3 as explained by Nāgeśa). The word is not met with elsewhere

(Kielhorn, *I. A.*, XVI.102 ; cf. *Kāśikā*, I.1.6, *saṁkramo nāma guṇa vṛiddhi-pratishedha-vishayaḥ*).

30. *Sandhyakshara* = *e, o, ai, au* (Kāt. on Śivasūtras 3-4; I.2.4 ; where the other term *samanākshara* for the simple vowels is also used).

31. *Sasthāna* = *jihvāmūlīya* (Kāt. II.4.54.8, as explained by Kaiyaṭa).

32. *Hrāda* = *anuranaṇa-ghosha*, sound vibrations following the uttering of a letter (Kāt. *hrādavirāmaḥ saṁhitā*, I. 4. 109.7; I.355).

SYLLABUS OF GRAMMATICAL STUDIES—The early grammatical literature sheds light on the syllabus and method of its study. Kātyāyana raising the question as to what constitutes grammar, replies that word-forms (*lakshya*) and rules of formation (*lakshaṇa*) together make up grammar. The earlier method was naturally that of learning each word by itself, as Patañjali has observed (*Pratipadoktānāṁ śabdānāṁ śabda-pārāyaṇaṁ provācha*, I.5). Formulation of rules came later. The composition of grammar in the form of *sūtras* as *lakshaṇas* or rules attained its culmination in Pāṇini, who also refers to students following the earlier method of studying individual words and called *Prātikaṇṭhika* (IV.4.40; where *Pratikaṇtha* = *prātipadika*). Both these methods seem to have obtained simultaneously up to the time of Patañjali, who speaks of students called *lākshyika* (studying words) and *lākshaṇika* (studying rules) (IV.2.60). Pāṇini himself refers to two principal divisions comprising between them the full course on grammar, *viz. Nāmika* treating of nouns, and *Ākhyātika* of verbs (IV.3.72). The *Kāśikā* refers to commentaries on nouns (*Saupa*), Verbs (*Taiṅa*) and Verbal Nouns (*Kārta*, IV.3.66). These commentaries were meant as aids to the topical study of nouns (*Subanta*), Verbs (*Tiṅanta*) and Verbal Nouns (*Kṛidanta*). In the first two the order of Pāṇinian *sūtras* must have been readjusted. Perhaps these names carry back the tradition of the arrangement of grammatical words as found in the

Prakriyākaumudī and *Siddhāntakaumudī* to a period anterior to the *Kāśikā*. Some key-words throwing light on grammatical syllabus are mentioned by Patañjali. He refers to a work called *Sāmastika* which dealt with compounds, corresponding to Book II, Chaps. 1-2 of the *Ashṭādhyāyī*. In place of the term *Samasta*, known to the *Atharva Prātiśākhya* (III.4.3), Pāṇini uses *Samāsa*.

Patañjali mentions *Nātānatika* as a work dealing with Accents (*Bhāshya*, II.295 ; *Kāśikā*, IV.3.67). *Nata* and *Anata* were pre-Pāṇinian, terms, *Nata* standing for *Anudātta* and *Anata* for *Udātta*. Pāṇini uses the term *Sannatara* (II,2.40), in place of the older term *Nata*. The *Nātānatika* chapter counted as a separate topic in the syllabus. Book VI of Pāṇini, Chapters 1 and 2, are equivalent to *Nā'āntatika* of the older grammars. The *Kāśikā* refers to this topic also as *Sauvara* (VII.3.4).

The Kāśikā (IV.3.67) cites the names of two more chapters *viz.* (1) *Sāṁhita*, dealing with *Sāṁhitā*, or *Saṁdhi*, euphonic combinations, corresponding to VI.1.72-134 and VIII.4.40-65 ; and (2) *Shātva-ṇatvika*, dealing with cerebralization of dental *na* and *sa*, corresponding to *Ashṭādhyāyī* VIII.3 55 to VIII.4.39. This Pāṇinian chapter is a model of compact topical treatment in a grammar. The *Ṛiktantra* of the *Sāmaveda* also includes a similar but losely strung section on cerebralization.

Another important chapter dealt with the vowel changes in words caused by the presence of suffixes, and described as *Guṇa* and *Vṛiddhi*. These chapters were known as *Guṇāguṇa* (*Ukthādi gaṇa*, IV.2.60; *aguṇa*, *Vṛiddhi*) of which the students were called *gauṇāguṇika*. The *Kāśikā* also acquaints us with some theoretical studies like *Gauṇamukhyam*, dealing with *Pradhāna* and *Upasarjana* (IV.3.88), and *Sabdārthasambandhīyam* (IV. 3. 88). Completing the prescribed course of study was called *vritta* (*Neradhyayane vrittam*, VII.2.26), *e.g. vritto guṇo Devadattena*, 'Devadatta has mastered *Guṇa*' as part of his grammatical studies.

The *Kāśikā* informs us that the subject of lengthening and shortening of vowels formed the subject of a treatise called *Guru-lāghavam*, first promulgated by *Apiśali* (*Apiśal-yupajñam Guru lāghavam*, VI.2.14; IV.3.115). That treatise is now lost, but its contents seem to have been used in Pāṇini's work (cf. Keith, *H.S.L.*, p. XXV).

PANINI AND LOKA (CURRENT LANGUAGE)—Pāṇini's regard for current language bearing on grammatical formations is reflected in the *sūtra-kāṇḍa*, I.2.51-58. Generally reluctant to express his opinion on cotroversial matters which engaged the attention of previous grammarians and etymologists, Pāṇini here shows an exception by presenting the *pūrvapaksha* and the *siddhānta* in defence of his fundamental grammatical position, i.e. his article of faith as a grammarian. He stoutly defends *Saṁjñā* or *LOKA*, i.e. current social and linguistic usage, as the best guide and standard to decide theoretical definitions and questions. The authority of *Saṁjñā* or usage of words must always supersede that of *Yoga* or meaning dependent on derivation (*saṁjñā-pramāṇa*, I. 2. 53-55). It may be asked whether the treatise on grammar should also deal with such matters as determining the exact significance of time-denoting words, social grades, *etc.*; as for example, 'How much is a *droṇa* ?', 'What is a *yojana* distance ?', 'What are the relative positions of a principal and agent?', etc. There were enthusiasts who thought that in the absence of exactly knowing which twenty-four hours constitute *adya*, 'today', grammatical rules cannot be correctly applied. Pāṇini utters a note of warning against such extreme theorists and invokes the invariable authority of usage, both linguistic and social (*Tad-aśishyaṁ saṁjñā-pramāṇatvāt*, I. 2.53). For example, it may be a fact that the name Pañchāla was given to a country because of the first settlement of the Pañchāla Kshatriya tribe in that region. This 'land-taking' stage was now a thing of the past. Pañchāla was now understood as the name of a *janapada* without reference to the Kshatriyas who inhabited it. A grammarian should

face facts. It is unnecessary to seek the derivation of Pañchāla *janapada* from the Pañchāla tribe. Similar is the case with hundreds of other place-names which were originally derived from historical conditions which no longer existed and so those names lost their original derivative sense. This point of view gives to the grammarian a realistic outlook by which he is able to build up from a living language its system of grammar.

Thus, instead of tying himself down to the treatment of age-old topics, such as accentuation, cerebralization, vocalization, letter-coalescence, formation of compounds and declension of nouns and verbs, Pāṇini extended the scope of his investigation to include all kinds of words taken from the different departments of language and current usage. The result of this approach is visible in Pāṇini's exhaustive treatment of the *Kṛidanta* and *Taddhita* suffixes. He investigated in great detail the manifold *vrittis* or meanings expressed by words through suffixes. Yāska informs us that the subtle distinctions of meanings of words are not always free from doubt (*viśayavatyo hi vrittayo bhavanti*, *Nir*. II. 1). In his linguistic laboratory, as it were, Pāṇini collected and classified all possible meanings in which words were used, and grouped them under suitable headings as *hita*, *sampādi*, *arha*, *alamartha* (VI. 2.155), *krita*, *rakta*, *vikāra*, (VI. 3.39), *aṅka*, *saṅgha*, *lakshaṇa*, *dharma*, and several hundreds of others. The activities of all grades of persons in society, such as a musician, hunter, shoe-maker, cook, salesman, trader, ferryman, author, mendicant, devotee, farmer, cowherd, prince, councillor, *etc.*, were analysed and taken note of grammatically. He thus viewed *Loka* in all its comprehensiveness as the primary source of material for a living grammar. This attitude towards the reality of life resulted in the secularization of knowledge and is patent in the *Ashṭādhyāyī* which for the most part served the *Bhāshā* or the spoken language of Pāṇini's time and was not tied to the chariot-wheels of Vedic schools. Kātyāyana and Patañjali also frequently appeal to current

usage as the final authority (*Loka-vijñānāt Siddham*, I. 1.21 ; I. 77 ; I. 1.65 ; I. 171).

SANSKRIT AS A SPOKEN LANGUAGE—The question whether Sanskrit was the spoken language in Pāṇini's time or only a literary language is often raised. Grierson with his eyes fixed more on the language of the Aśokan inscriptions argued that if Pāṇini was legislating for the spoken language of his days, how could it have so changed by the time of Aśoka in such a short time (*Ind. Ant*, Vol. XXII, 222). On the other hand Goldstücker, Keith and Leibich (*Pāṇini*, p. 48) hold that Pāṇini's Sanskrit was the spoken language used by the cultured classes of his time. Grierson does not appear to have wholly taken into account the internal evidence of the *Ashṭādhyāyī*. As Keith puts it : 'Pāṇini has rules which are meaningless for any thing but a vernacular, apart from the fact that the term *Bhāshā* which he applies to the speech he teaches has the natural sense of a spoken language'. (*H.S.L.*, p. 9). Thus Pāṇini includes in his purview linguistic forms relating to questions and answers (*praśna*, III. 2.117 ; *prishṭa-prativachana*, III. 2. 120), praise and censure (*praśaṁsā-kutsā*), calling from a distance (*durād-dhūte*), greeting (VIII.2.83-86), expressions in oxytone for censuring an opponent worsted in argumentation (*nigṛihyānuyoga*), terms of threat (*bhartsana*, VIII. 2.95), mental deliberation (*vichāryamāṇa*, VIII.2.97), censuring a lapse in polite conduct (*kshiyā*), benediction (*āśīḥ*), bidding (*praisha*, VIII.2.104), narration (*ākhyāna*, VIII. 2.105), friendly persuasion (*āmantraṇa*, VIII.1.33) haste (*parīpsā*, VIII.1.42), permission (*anujñaishaṇā*, VIII.1.43 as *nanu gachchhāmi bhoḥ* 'May I go, Sir'), communicating something in a harsh manner (*ayathābhipretākhyāna*, III.4.59) *etc.* We have also the parenthetical use of *manye*, 'I think'; (I.4.106; VIII.1.46) when denoting derision or sneering in colloquial language, and other similar forms of living speech as *khādata-modatā*, 'eat and be merry'; *aśnīta-pibatā*, 'eat and drink'; *pachata-bhṛijjatā* 'cook and fry', *etc.* An expression like *bhinddhi-lavaṇā*, 'Pour the salt', must have been derived from the cries of busy cooks in a kitchen on festive occa-

sions. This extraordinary penetration into popular life and language accounts for Pāṇini's extensive linguistic material which made him notice even such minute details as the name of wells on the left and right banks of the river Beas (IV.2.74).

He notes variations or idiom in Sanskrit spoken in the North and the East, and also quotes forms prevailing in the local dialects of the *janapadas*, *e.g.* names of towns in the Uśīnara country and names of Brāhmaṇa and Rājanya members of the *saṅgha* organization in the Vāhīka region (V.3.114).

The term *Bhāshā* as used by Pāṇini is the language distinguished from the language of the sacred texts, *viz.* Chhandas and Brāhmaṇa literature. Patañjali states the true position when he says that Sanskrit was the standard speech of the *Śishṭas*, *i. e.* cultured persons, who even without instruction were capable of using the correct speech. He does not deny the co-existence of the speech of the common people called Apabhraṁśa of which there were variations (*ekaikasya śabdasya bahavo' pabhraṁśāḥ*, I. 5). Patañjali could speak the language which was the medium of his literary expression, but a common herdsman would use one of the Prākrit dialects. Kātyāyana definitely mentions *Loka* (ordinary language of the *Sishtas*) as the standard of grammatical norm, and at the same time refers in a *vārt.* to the existence of Prakrit roots like *āṇapayati* and others (I.3.1.12 ; I.269). Sanskrit and Prakrit should not be thought of as exclusive of each other in point of time. 'The matter is really to be viewed not in the light of a contrast between actual spoken language and a Hochsprache. It is rather a matter of class speeches; Yāska spoke Sanskrit much as he wrote it, and the officials of Asoka equally conversed in a speech essentially similar to that in which they wrote, while contemporaneously lower classes of the population spoke in dialects which were far further advanced in phonetic change'. (Keith, *H.S.L.*, p. XXVI).

PANINI'S GENIUS FOR SYNTHESIS—Pāṇini shows a scientific and balanced judgment which could reconcile the opposite views and controversies regarding important topics of grammar and their method of treatment.

Thus the most acute grammatical controversy in his days was that concerning the derivation of nouns from verbs. The Nairuktas and the Śākaṭāyana school held the view that nouns were derived from verbs. On the other hand, Gārgya, who was probably a Nairukta, and the grammarians maintained that it was not necessary to trace each and every noun to a verb (*Nāmany-ākhyatajāniti Sākaṭāyano nairukta-samayaścha*, Yāska, I.12 ; *Bhāshya*, II.138, *Nāma cha dhātujamāha Nirukte Vyākaraṇe Sakaṭasya cha tokam*). Yāska himself subscribed to the theory of verbal derivation of nouns, but he disapproved of the ridiculous attempts made at times by the followers of Śākaṭāyana to invent fanciful derivations of nouns from verbs (*Nirukta*, I.13) : 'The etymologist who indulges in improper and unauthorized derivation of words deserves censure ; the scientific principle thereof cannot be faulty'.

Pāṇini's view on the subject represents a synthesis. Kātyāyana and Patañjali state that Pāṇini regarded the *Uṇādi* formations as not derived from any root and suffix (*avyutpanna prātipadika* ; *Prātipadika vijñānāchcha Pāṇineḥ siddham*, VII. 1.2.5 ; III. 241, *Uṇādayo' vyutpannāni prātipadikāni*). Words of regular derivation from verbs and suffix form the subject of Pāṇini's *Kṛidanta* section. Others which do not admit of such regular analysis and derivation were considered by him to belong to the *Uṇādi* class. Pāṇini's attitude towards the *Uṇādi* suffixes is one of silent approval. In the *sūtra Uṇādayo bahulam* (III 3.1.) he takes a passing notice of the *Uṇādi* suffixes, but he refrains from discussing in his usual manner the characteristic features and details of the *Uṇādi* system. It appears that the *Uṇādis* were the product of the Śākaṭāyana school. To ascribe them to Pāṇini would militate against the system for which he stands.

SOURCE OF MEANING—Kātyāyana acquaint us with two views held about the factors which give to the words their proper meaning. He says that the application of a word to a particular object rests on the root-meaning underlying it, *e.g.* *gau* is so called because it moves, but all objects which move do not get the name *gau*. Yāska uses this argument as the *pūrvapaksha* view for rejecting derivative theory (*Nirukta*, I. 12). The other reason according to Kātyāyana is the application of a word to an object as seen in popular usage (*Darshanaṁ hetuḥ*, I. 2 68; I. 250). We have seen that Pāṇini recognises both these views when he says that *Saṁjñā* and *Yoga* both contribute to the meanings of words in their own way (II. 1.53, 55).

JĀTI AND VYAKTI—This controversy centred round the question whether a word denotes a class (*Jāti*) or an individual (*Vyakti*). As indicated by Kātyāyana, Vājapyāyana held the view that a word denotes the class, whereas Vyāḍi took the other view that it stood for the individual (*Bhāshya*, I. 2.64; I. 242; I. 244). Patañjali credits Pāṇini with the reconciling of the two opposite views; *e. g.* *sūtra* I. 2.58 is based on the *ākṛiti* (class) views, and *sūtra* I. 2.64 on the *dravya* (individual) view of meaning (*Bhāshya*, 16).

ONOMATOPOEIA—Yāska gives two views on the subject: '"Onomatopoeia does not exist," says Anupamanyava.' His own view was that the names of birds are very often in imitation of their sounds. Pāṇini has accepted this principle of *anukaraṇa*, as applied to *avyakta* speech, *i. e.* articulation which is not in the form of distinct syllables (*avyaktānukaraṇāt*, V. 4.27).

PREFIXES—Yāska says that Śākaṭāyana considered the prefixes as mere signs or symbols of meaning (*dyotaka*), but *Gārgya* held that they carry a meaning of their own (I. 3). Pāṇini sees no conflict between these views. Prefixes like *adhi* and *pari* are deemed by him as *anarthaka* (I. 4.93), evidently implying, as Patañjali points out, that there were other prefixes which were not devoid of meaning.

DHĀTU AS KRIYĀ- AND BHĀVA-DENOTING—The question whether the verbs denote 'becoming' (*Kriyā*) or 'being' (*Bhāva*) was an important one for the grammarians on the ground of its bearing on the eternity of words. Patañjali says that Pāṇini accepted both views in *sūtra Bhūvādayo dhātavaḥ* (I. 3.1 ; I. 258). Taken separately *sūtra* II. 3.14 supports that verbs refer to *bhāva* and *sūtra* II. 3.15 to *kriyā*.

ETERNITY OF WORDS—This doctrine is the basis of the philosophy of Grammar. Kātyāyana in his *vārt.* on IV. 4.1 refers to two opposite schools, *viz. naitya-śabdika* and *kāryaśabdika* (*Bhāshya*, II. 32ɔ), The *Ṛik Prātiśākhya* refers to the two views regarding the eternity and not-eternity of letters (XIII. 14). Yāska quotes the opinion of Audumbarāyaṇa holding that words vanish with their utterance (*Indriyanityaṁ vachanaṁ Audumbarāyaṇaḥ*, *Nirukta*, I.2). Patañjali reveals in his discussion that Pāṇini as well as Kātyāyana were advocates of the eternity of words, but that does not preclude the grammatical operations of *lopa* and *āgama* affecting words. Pāṇini defines *lopa* or elision as *adarśana* (I. 1.60), which Patañjali explains as *antardhāna*, *i.e.* disappearance. On the contrary, the *Tait. Prāt.* held that *lopa* is *vināśa* or annihilation, (I.57), a view based on the non-eternity of words. Similarly, Pāṇini's *ādeśa* was previously known as *vikāra* (Kāt. I.31).

From the above examples it may be inferred that between two extreme views, Pāṇini always preferred to follow the golden mean, or as we might put it, the *MAJJHIMA-PAṬIPADA*, the Middle Path, which was the keynote of the period in which he was born.

CHAPTER VI

RELIGION

SECTION I. DEITIES

The religious conditions in Pāṇini mainly relate to *yajña* or sacrifice, and worship of various Vedic deities with oblations and performance of appropriate rituals by different classes of priests Names of officiating priests and *dakshiṇā* or payments for their service are also mentioned (V.1.69 ; V.I.95). At the same time there are definite indications of popular phases of religious beliefs and practices as elaborated in devotion to gods and asterisms, worship of images and the growth of religious ascetic orders.

DEITIES. Pāṇini mentions the following Vedic deities, both singly and in pairs : (1) Agni (IV.1.37), (2) Indra, (3) Varuṇa, (4) Bhava, (5) Śarva, (6) Rudra, (7) Mṛiḍa (IV. 1.49), (8) Vṛishākapi, (IV.1.37), (9) Pūshā, (10) Aryamā (VI.4.12), (11) Tvashṭā (VI.4.11), (12) Sūrya (III.1.114), and (13) Nāsatya (VI.3.75). The last name is derived by Pāṇini as *na asatyāḥ*, 'who are the opposite of non-truth'. The Mahābhārata mentions Nāsatya and Dasra as the twin Aśvins born of the nose (*nāsā*) of Saṁjñā, wife of Sūrya (Anuśāsana-parva, 150.17). The derivation from *nāsā* is in fact mentioned by Yāska as a probable explanation of the word (*nāsikāprabhavau babhūvatur iti vā*, VI.13). But Pāṇini accepted the etymology of this word given by Aurṇavābha whose opinion is quoted by Yāska (*satyau eva nāsatyāvity-Aurṇavābhaḥ*, *Nirukta*, VI.13).

Indra is also referred to as Marutvān (VI.2.32). Pāṇini refers to Prajāpati under the symbolical name of *Ka* (IV.2. 25). Patañjali says that *Ka* is not a pronoun, but the proper name of a deity (*saṁjñā chaishā tatrabhavataḥ*, II.275), so that the dative case of *Ka* would be *Kāya*, not *kasmai*.

Reference is also made to the deity called Vāstoshpati who presided over a house or homestead and was as old as the *Ṛigveda*. Pāṇini's mention of Gṛihamedha (IV.2.32) under the context 'This is its deity' (IV 2.24) shows that Gṛihamedha was also looked upon as a deity. In the same context mention is also made of Soma, Vāyu, Mahendra and Apāṁnaptṛi (IV. 2. 27), which last was a name of Agni as sprung from water to whom special oblations were offered.

Of the pairs of deities (*devatā-dvandva*, VI.2.141) a long list is found in the *Ashṭādhyāyī*, e.g. Agni and Varuṇa (VI.3.27); Agni and Soma (IV.2.32; VI.3.27), Dyau and Pṛithivī (IV. 2. 32; VI. 3. 29-30), Ushā and Suryā (VI.3.31), the twin agricultural deities Śunāsīra, and other combinations with Rudra and Pūshā (VI 2.142). Even Manthin, a Soma-vessel (*Somagraha*) is mentioned in the context of 'twin deities' (VI.2.142).

Of the female deities the older goddesses mentioned are Indrāṇī, Varuṇānī, (IV. 1. 49), Agnāyī, Vṛishākapāyī (IV.1.37), Pṛithivī always referred to as a pair with Dyaus, and Ushas for whom oblations were prepared as for an independent deity (IV.2 31).

POST-VEDIC DEITIES. The most important of these is goddess Pārvatī four of whose names are mentioned, *viz.* (1) Bhavānī, (2) Śarvāṇi, (3) Rudrāṇī and (4) Mṛiḍānī (IV. 1.49). This worship was a feature of the Sūtra period. The Vedas refer to their male counterparts such as Bhava, Śarva, Rudra and Mṛiḍa. The *Śatapatha Brāhmaṇa* mentions Rudra, Śarva, and Bhava as forms of Agni (VI.1.3.18), and makes the important statement that the name Śarva was popular in the Prāchya country, and Bhava in the Vāhīka region (*Sarva iti yathā Prāchyā āchakshate, Bhava iti yathā Vāhīkāḥ, SB.*, I.7.3.8). It may, therefore, be inferred that the names Śarvāṇī and Bhavānī were local designations of the one and the same Mother Goddess. Similarly Rudrāṇī and Mṛiḍāṇī may have been other local epithets of the same deity.

Āditya referred to in *sūtra* IV.1.85 is to be taken as the name of the classical sun-god rather than of the Vedic Ādityas. In fact a new feature of the Pāṇinian pantheon is the emergence of time-denoting words raised to the status of deities (IV.2.34). For instance, oblation was prepared to worship the deity named *Māsa*, 'Month', and called *Māsika*; and similarly for the deity *Saṁvatsara*, 'Year', and called *Sāṁvatsarika*. There was also worship of the 'Seasons' as deities, *e. g.* Vasanta or Spring, the oblation being called *Vāsantaṁ haviḥ*. Pāṇini himself refers to *Ṛitu*, 'Season' as a deity (IV. 2. 31), in whose honour some worship was prescribed. This process of deification extended even to stars. This is indicated by the mention of Proshṭhapada, a name of Bhādrapada, as a *devatā* or deity (IV.2.35). But the whole system of adopting personal names after the names of asterisms, for which detailed rules are given (IV.3.34, 36, 37), was due to the fact that the stars became objects of adoration and worship. Names like Rohiṇisheṇa, Bharaṇishena and Śatabhikshaksena implied in the *sūtra* *Nakshatrād-vā* (VIII. 3. 100) point to a belief in the beneficent influence of deities presiding over these asterisms.

BHAKTI. The new phase of religious belief found its expression in the cult of *Bhakti* or theistic devotion te particular gods and goddesses. Such names as Varuṇadatta and Aryamaddatta, which were shortened as per *sūtra* V. 3. 84, point to the belief that gods like Varuṇa and Aryamā, if propitiated by the parents, would grant the boon of a son to be named after them. Pāṇini admits that the name ending *datta* denoted a benediction from a god or a higher power of which the personal name became a symbolic expression (*Kārakād-datta-śruta-yorevāśishi*, VI.2. 148). This religious approach is further exemplified in Pāṇini's reference to *bhakti* to Vāsudeva and Arjuna (IV. 3. 98). Patañjali clearly remarks that Vāsudeva was here not a mere Kshatriya name but the personal name of Kṛishṇa whose *bhakta* or worshipper was called *Vāsudevaka*. We should, however, admit that *bhakti* in this

context (IV.3.95-100) has also a secular significance in some *sūtras*, e. g. *āpūpika*, one who loves eating cakes (example to IV.3.96). The reference to the *bhakti* of Mahārāja or Kubera proves on the other hand that Pāṇini surely had religious *bhakti* also in mind (*Mahārājaṭ-ṭhañ*, IV.3.97).

MAHĀRĀJA. Besides referring to the *bhakti* shown to Mahārāja as stated above, Pāṇini also mentions that Mahārāja was a *devatā* (IV.2.35), to whom oblations were offered. According to Patañjali *bali* offered to Mahārāja was called *mahārāja-bali* (I.388, cf. also *Kāśikā*, II.1.36). This deity may be identified with those mentioned as a group of Four Great Kings, *Chattāro Mahārājāno*, who dwell in the *Chātummahā-rājika* or the lowest *deva* world as guardians of the four quarters. In *Jātaka* VI.265, Vessavaṇa is called a Mahārāja and in the *Mahāsutasoma Jātaka* Śakra and the other three Lokapālas are called *Mahārājāno* (VI.259). They also stand at the head of the list of gods and other superhuman beings in the *Aṭānāṭiya Sutta* (*Dict. Pāli Proper Names*, I.242 ; 861). From *bhakti* to Mahārāja deity, it is clear that Vāsudeva as an object of *bhakti* is also to be taken as a deity as stated by Patañjali.

VĀSUDEVA-CULT. Pāṇini's reference to Vāsudeva as the object of *bhakti* throws light on the antiquity of the *bhakti* cult. Kaiyaṭa describes Vāsudeva as *paramātma-devatā-viśesha*. Keith accepts the accuracy of this identification and considers the remark of Patañjali, *viz. saṁjñā chaishā tatrabhavataḥ*, to be 'the most satisfactory proof of the identity of Vāsudeva with Vishṇu, for except through such identification no one could dream of putting Vāsudeva on the same plane as Ka' (*J.R.A.S.*, 1908, p. 848). Patañjali's reference to the staging of *Bali-bandhana*, Vishṇu's famous exploit, and the slaying of Kaṁsa, Kṛishṇa's great deed, were regarded by Weber himself as hinting at the early belief in the existence of Kṛishṇa-Vāsudeva and his identification with Vishṇu (*ib.* p. 847). If in the second century B.C. these exploits formed part of the Vishṇu legend they must have been considerably older (cf. the example, *Jaghāna*

Kaṁsaṁ kila Vāsudevaḥ, *Bhāshya* quoting it as a past event, II. 119). Patañjali also refers to the *Vyūha* of Kṛishṇa with his three acolytes: *Janārdanas-tvātmachaturtha eva*, (*Bhāshya*, III. 43, on *sūtra* VI. 3.5.). He also mentions Kṛishṇa and Saṁkarshaṇa as joint leaders of an army (*Saṁkarshaṇa dvitīyasya balaṁ Kṛishṇasya vardhatām*, I. 426), and refers to the existence of temples dedicated to Keśava and Rāma besides those of Kubera (*Prāsāde Dhanapati-Rāma-Keśavānām*, I.436). In *sūtra* VIII.1 15 Pāṇini states that the word *dvandva* signifies a pair of persons jointly famous (*abhivyakti*), on which the *Kāśikā* cites as an example *Saṁkarshaṇa-Vāsudevau* (*dvāvapyabhivyaktau sāhacharyeṇa*). Devotional worship to Saṁkarshaṇa and Vāsudeva in connection with a religious shrine is proved by epigraphic evidence of second century B.C. (Nagari Ins., *E.I.*, XXII, p. 198 ff.). The *Arthaśāstra* not only refers to the legend of Kṛishṇa and Kaṁsa (XIV.3) but also prescribes the building of temples sacred to god Apratihata, *i. e.* Vishṇu (II. 4). These examples, although of the Maurya-Śuṅga epoch, show that Kṛishṇa's divinity was already established as a result of centuries of religious development. Patañjali's reference to the Śiva-Bhāgavata religion (II.387) is also proof of the early antiquity of the Bhāgavata cult, for the Śaivas following the Bhakti cult must have been so named after the Bhāgavatas. Although the evidence from the *Gaṇa-pāṭha* is not unassailable, it must be mentioned that the *Gavāśva* group (II.4 13) reads *Bhāgavatī-Bhāgavatam*, as a compound word in singular number mentioning a female and a male follower of the Bhāgavata religion. Grierson also maintained the antiquity of the Bhāgavata religion in Pāṇini's time on the basis of his knowledge of Vāsudeva as a deity (*J.R.A.S.*, 1909, p. 1122). Sir R. G. Bhandarkar agrees with this view. (*J.R.A.S.*, 1910, p. 170, Vāsudeva of Pāṇini, IV.3.98).

IMAGES.—Figurines, including divine images are included under the general term *pratikriti* (V. 3. 96). Pāṇini, however, knew of a more specific word, *arohā* (V. 2. 101), which accords with Patañjali's usage ((*Mauryaiḥ* (*hiraṇ*-

yārthibhiḥ archāḥ prakalpitāḥ, V. 3. 99, *Bhāshya*, II. 429).[1] Its derivative *archāvān* (V. 2. 101) should have signified the owner of an image.

An important sūtra, *Jīvikārthe chāpaṇye* (V. 3. 99) intended to regulate the formation of names of divine images, proves beyond doubt Pāṇini's knowledge of images of deities in his time. Regarding the naming of images there are the following possibilities covered by Pāṇini's rule and Patañjali's rather involved argument on it.

(1) There may be images installed in temples or open shrines, which are not of individual ownership, and hence not for any ones' livelihood (*jīvikā*), or for sale (*paṇya*), but are for worship (*pūjārtha*). These images remain outside the purview of Pāṇini's rule. How they were named, whether *Śiva* or *Śivaka* we are left to guess, but there is all the probability that they were named without the *kan* suffix, as *Śiva*, *Skanda*, etc.

(2) In the second place there may be images in the possession of *devalakas* or owners and custodians of shrines. They may be either fixed in one place or carried from place to place. The former would cover for all practical purposes the images of class 1 above, which would then be objects of Pāṇini's rule and the deity would be named *Śiva* (without *kan* suffix). Both *chala* and *achala* images with the *devalakas* would serve for worship (*pūjartha*), be a source of livelihood (*jīvikārtha*) to their care-takers, but be not for sale (*apaṇya*). All these are the object of Pāṇini's rule, and they would be named as *Śiva*, *Skanda* (without *ka*).

(3) The third class of images would be those displayed for sale (*paṇya*); these were not for worship (*pūjārtha*), although they were a means of livelihood to their owners (*jīvikārtha*). These would be counter-examples of Pāṇini's *sūtra*, and named as *Śivaka*, *Skandaka*, etc.

1 *Archā* means 'image of a god'; cf. *dirgha-nāsikī archā*, *tuṅga-nāsikī archā* (IV. 1.54; II. 222); also Lüder's discussion of its use in the Mora Well Inscription, *Ep. Ind.*, XXIV, p. 198.

(4) Here Patañjali joins issue with Pāṇini. On the basis of some reliable historical information which he had he contends as to how the *sūtra* will fare in the case of images which the Mauryan kings, 'greedy of gold' (*hiraṇyārthibhiḥ*), had ordered to be set up (*prakalpitāḥ*) and most probably also to be sold, and which thus served simultaneously the triple purpose of *Jīvikā*, *paṇya* and *pūjā*[1]. Kauṭilya supplies the much needed commentary on this extraordinary Mauryan measure to replenish their exchequer.[2] The Devatādhyaksha is directed to raise-money (*ājīvet, hiraṇyopahāreṇa, kośaṁ kuryāt, Arth.* V. 2) by manipulating the worship of divine images and exploiting the credulousness of the people, such as organising fairs and festivals in the holy shrines of deities (*daivatachaitya*), improvising shows of miraculous *nāga* images with changing number of hoods, and spreading the news of other miracles, etc. (*Arth.* V. 2). According to Patañjali these particular images would not be covered by Pāṇini's rule (*bhavet tāsu na syāt*), and although they might have found a place in the shrines for worship, they would not get the name *Śiva, Skanda*, etc.

(5) As a way out of the conundrum, Patañjali dismisses the case of the Mauryan images which were both for sale and for worship, and he points to contemporary images under actual worship (*yās-tvetāḥ samprati pūjārthāḥ tāsu bhavishyati*) which were suitable examples of Pāṇini's rule and be designated as *Śiva, Skanda*, etc. (without *kan* suffix).[3]

1 अपण्य इत्युच्यते तत्रेदं न सिध्यति । शिवः स्कन्दः विशाख इति । किं कारणं । मौर्यैर्हिरण्यार्थिभिरर्चाः प्रकल्पिताः । भवेत्तासु न स्यात् । यास्त्वेताः संप्रति पूजार्थास्तासु भविष्यति । (*Bhāshya*, V.3.99 ; II. 429).

2 *Hiraṇyārthi*, according to Patañjali on *vār. arthāchchāsannihite* on *sūtra* V. 2.135, denoted one who was bereft of wealth or gold, and consequently longed for it.

3. Images	*Jīvikā*	*Paṇya* or not	For *pujā* or not	name
1. Images installed in shrines.	on जीविका	अपण्य	पूजार्थं	outside Pāṇini's rule; or see above (2)

Images of Śiva and Vaiśravaṇa were also known to Kauṭilya (II.4) as being installed in temples. Some of these deities were worshipped in pairs, e.g. *Śiva-Vaiśravaṇau*, *Skanda-Viśākhau*, *Brahma-Prajāpatī* (*Gaṇa-paṭha* to II.4.14, and also a *vārttika* on VI.3.26). As pointed out by Patañjali these joint names were post-Vedic ((*na chaite Vede sahanirvāpa-nirdishṭāḥ*, VI.3.26 ; III.149). Śiva and Vaiśravaṇa were the two main deities associated in the development of the popular cult of the Yakshas, Nāgas and other godlings. We have seen that Pāṇini refers to the worship of Mahārāja, which was but another name of Vessavaṇa-Kubera, who headed the group of the Four Great Kings or Regents of the Four Quarters and was the king of the *Yakkhas* in the North. Pāṇini also mentions the descendants of Dhṛitarājan (VI.4135) who may be identified as the Lokapāla Dhataraṭṭha ruling in the East at the head of the Gandhabbas.

DEMONS—The counterpart of the gods were the demons who are dreaded as much as the former were loved. In mentioning them Pāṇini is obviously drawing on older literature rather than recording contemporary beliefs. Diti (IV.1.85) mother of the Daityas, Kadrū (IV.1.72), Asuras (IV.4.123), Rākshasas and the Yātus (IV.4.121) are referred to, but in connection with older linguistic forms. The term

2. Devalaka images.	जीविकार्थं	अपण्य	पूजार्थे	शिब : स्कन्द :
3. Images for sale	जीविकार्थं	पण्य	notपूजार्थं	शिवक: स्कन्दक:
4. Images under the Mauryas.	हिरण्यार्थं	पण्य	पूजार्थं	could not be named as शिव : स्कन्दक : (भवेत्तासु न स्यात्)
5. Images in Patañjali's time.	जीविकार्थं	अपण्य	पूजार्थं	शिव : स्कन्द : (यास्त्वेताः संप्रति पूजार्थस्तासु भविष्यति ।)

āsurī māyā (IV.4.123) similarly appears to be an old word signifying thaumaturgy or the *asura-vidyā* (cf. *Āśv. Śr.*, X.7, and *ŚB.*, XIII.4.3.11). The female demon Kusitāyī wife of Kusita (IV.1.37) occurs in the *Maitrāyaṇī Saṁhitā* (III.2.6). The planet Rāhu is referred to as an enemy of the moon (*Vidhuṁtuda*, III.2.35).

YAKSHAS—In *sūtra* V.3.84 Pāṇini refers to Śevala, Supari, Viśāla, Varuṇa and Aryamā. These were names of tutelary deities. It has been shown above (*ante*, p. 188) that Viśāla was the name of a *Yaksha* according to the Sabhāparva, 10.16. Supari and Śevala also appear to be minor godlings, probably *Yakshas*. According to the Āṭanāṭiya Sutta (*Dīghanikāya*) Varuṇa was a *Yaksha* also. Aryamā, too, was most probably a minor deity of popular religion associated with child-birth.

THE YAJNIKAS—Yāska quotes the opinions of the Yājñikas along with those of the Nairuktas. Pāṇini also refers to the *āmnāya* or tradition of the Yājñikas whose school was called *Yājñikya* (IV. 3. 129). The Yajñika literature was of remote antiquity. Patañjali refers to difficult Yājñika texts, *e. g. sthūla-prishatīm anaḍvāhīm*, which could not be rightly explained without the aid of grammar (I. 1). He also mentions their treatises (*Yājñika-śāstra*, I. 9). It appears from the *Ashṭādhyāyī* that the *Yajña* doctrine both in its theory and practice held full sway in his time. He records minute details regarding the peculiarities of pronunciation of such formulas as the Subrahmaṇyā (I. 2.37), Nyūṅkha (I. 2.34) and Yājyā verses (VIII. 2.90). His references relate not merely to academic discussions, but to actual practices of the *Yajña* ritual (*yajña-karmaṇi*, I. 2.34 ; VIII. 2.88).

YĀJNIKA LITERATURE—Besides the *Brāhmaṇas* and the *Anubrāhmaṇas* (IV. 2 62), a vast body of specialised *yājñika* literature in the form of explanatory texts (*vyākhyāna*) of the *kratus* or Soma sacrifices and other *yajñas* had come into existence (IV. 3.68) ; for example, the treatise giving an exposition of Agnishṭoma was called *Āgnishṭomika* ; similarly there were texts called *Vājapeyika* and *Rājasūyika*. Particularly interesting is Pāṇini's reference to two-fold texts, one called *Puroḍāśika*, 'a book on *puroḍāśa*', containing detailed instructions about the manner of preparing the sacrificial rice-cake, and another called *Pauroḍāśika* (IV. 3. 70) which was a commentary of the *mantras* recited at preparing the *puroḍāśa* cake.[1] These *mantras*

1. The Puroḍāśa verses in the *Yajurveda*, Adhy. I, deal with the following stages, *vrīhin nirvapati* (verse 9), *prokshati* (12), *avahanti* (14), *parāpunāti* (16), *taṇḍulān pinashṭi* (20), *praṇitābhiḥ saṁyauti* (21), and *kapāleshu śrapayati* (22).

occur in the *Yajurveda*, Adh. I, and their commentary is found in the *Śatapatha*, Book I, which is thus a *Pauroḍāśika* text. These special handbooks arose to meet the practical needs of priests at the *Yajñas*.

YAJAMĀNA (*SACRIFICER*)—The sacrificer was called *Yajamāna* (III.2.128) for the period of the sacrifice, after which he was on that basis called *Yajvā* (III.2.103). There were also other terms derived from the performance of special sacrifices, as *Agnishṭoma-yājī* (III.2.85). A person devoted (*tach-chhīla*) to the constant performance of *yajñas* was called *yāyajūka* (III. 2. 166; *ijyā-śīlo yāyajūkaḥ*, *Amara*). For the period of the sacrifice, the *yajamāna* observed the vow of restraining himself from wordy speech, hence called *vāchaṁyama* (*Vāchi yamo vrate*, III. 2. 40), and of sleeping on a raised platform on the *vedi*, hence called *sthaṇḍila* (IV. 2. 15) or *sthaṇḍila-śāyī* (III. 2. 80). The son or the student of the *yajamāna* when he came to be of age as competent to perform the sacrificial act was called *alaṁ-karmīṇa*, sitting by his side and assisting him (*Yadyasya putro vāntevasī valaṁ-karmīṇaḥ syātsa dakshiṇata āsīno juhuyād iti*, *Baud. Sr.*, XXII.20). *Karma* in this *sūtra* meant *Yajña* (cf. *Yajur.*, I. 1; *Satapatha*, I. 1.21, *yajño vai karma*).

ĀSPADA—Social status (*pratishṭhā*) amongst the Brāhmaṇas was termed *āspada* (*Āspadaṁ pratishṭhāyām*, VI. 1. 146), a term still current. The *āspadas* were derived from the various sacrificial performances, such as Vājapeyī, Agnihotrī, etc. An Ahitāgni (II. 2. 37) was one who had consecrated the Three Śrauta Fires. One who had ceremoniously lived in the place set apart for the Āvasatha Fire, was called *Āvasathika* (IV. 4. 74), a word still seen in modern Avasthī. Inside the *yajñabhūmi*, the special place built for the *yajamāna* is called *āvasatha* (also *agni-śaraṇa*, because of the *āvasathya agni* consecrated there), and it was obligatory for him to stay in the *āvasatha* room for the duration of the sacrifice.

NAMES OF YAJÑAS—(*Yajñākhyā*, (V. 1.95). *Yajña* is derived from *yaj*, 'to worship' (III. 3. 90). *Ijyā* is another

term used by Pāṇini (III.3.98). Amongst the four Vedas the *Yajurveda* deals with sacrifices which are of three kinds, Ishṭi, Paśubandha and Soma.[1] Pāṇini makes a general reference to all the *Kratus* or *Soma* sacrifices mentioned in the *Adhvaryuveda* which was but another name of *Yajurveda* (*Adhvaryukratur-anapuṁsakam*, II.4.4). A distinction is made between *Kratus* and *Yajñas*, as both are mentioned separately in *sūtra* IV. 3.68. *Yajña* was a general term which included the *Ishṭis* like Darśa and Paurṇa-māsā, *Yajñas* as Pākayajña, Navayajña, and such variations as Pañchaudana, Saptaudana, etc , as well as such well known *Kratus* as Agnishṭoma, Rājasūya, and Vājapeya. But *Kratu* was used specially for the Soma sacrifices (II.4.4, Kāśikā, *kratuśabdaḥ soma-yajñeshu rūḍhaḥ*). The Soma juice forms the oblation in the *Kratus*. The *Kratus* are further subdivided into those called *Ahīna*[2] which are Soma *yāgas* lasting from one to eleven days, and *Sattra* which continued from twelve days to a hundred or a thousand years, the Dvādaśāha being regarded as both an *ahīna* and a *sattra*. There are *Kratus* governed by fixed time durations as *ekāha*, *daśāha*, etc. (subject to *kālādhikāra*, V.1.95). Agnishṭoma, Vājapeya, Rājasūya were *kratus*, but not *sattras*.[3] Names of the sessions of Soma sacrifices continuing for prescribed periods, were compounded with the names of *Yajamānas*, e.g. *Garga-trirātra*, i e. a Soma session of the Garga family lasting for three days ; similarly *Charakatrirātra*, *Kusurabindu saptarātra*, (*Dvigau kratau*, VI.2.97).

Of special sacrifices Pāṇini mentions Agnishṭoma (VIII.3.82), Jyotishṭoma and Āyushṭoma (VIII.3.83), the

1 In the Ishṭi as Darśa and Paurṇamāsa, the oblation is thrown with *Svāhā*, in the other two with *Vaushat* (उपविष्ट होमा स्वाहाकारप्रदानाः जुहोतयः ; तिष्ठद्धोमाः वषट्कारप्रदानाः याज्यापुरोनुवाक्यावन्तो यजतयः ।)

3. *Sūtra* V. 4. 145 and *vārt.*, on IV.2.42 *ahnaḥ khaḥ kratau, ahnām samūhah kratuh ahīnaḥ.*

3. Agnishṭoma and Vājapeya, each lasts for one day only with a preliminary course (*pūrvāṅga*) of four days, and the Rājasūya for about four days.

latter performed to obtain longevity, and making with the former a part of the Abhiplava ceremony. The Agnishṭoma with its three pressings (*savanas*) and twelve *stotras* forms the norm (*prakṛiti*) and the Vājapeya and the Jyotishṭoma are its modifications (*vikṛiti*). Rājasūya (III. 114), a *vikṛiti* of the Agnishṭoma, and Turāyaṇa (V.1.72) are also mentioned. Turāyaṇa was a modification of the Paurṇamāsa, and the *Yajamāna* performing it was called *Taurāyaṇika* (V.1.722). The *Sāṁkhyāyana Br.* speaks of Turāyaṇa as a *yajña* performed for the attainment of heaven (*sa esha svargakāmasya yajñaḥ*, IV.11, cf Āraṇyakaparva, 13.21). According to the *Kāt. Śr.* (XXIV.7.1-8) this *sattra* commenced on the fifth day of Vaiśākha Śukla or Chaitra Śukla and lasted for one year (*saṁvatsaraṁ yajate*). It was regarded as a *vikṛiti* of Dvādashāh *sattra*. *Kuṇḍapāyya* and *Sañchāyya* were the names of special Soma *kratus* (III.1.130), the former being a *vikṛiti* of Dvādashāha and a *sattra* lasting for one year, which was originally performed by the Kuṇḍapāyin Ṛishis (cf. Rig., VIII.17.13, where a person is so named).

Reference is also made to *Dīrghasattra* or sacrifices extending over long periods of time, as a hundred or a thousand years (VII.3.1). No doubt the *Brāhmaṇa* texts describe such *yajñas*, *e. g.* Viśvasṛij, a *yajña* lasting for one thousand years (*sahasrasama sattra*) described in the *Pañchaviṁśa Brāhmaṇa*, but we have the testimony of Patañjali saying that such long sacrifices were not actually performed (*loke aprayuktāḥ*), and that only the Yājñikas described them in their works as part of inherited tradition (*kevalaṁ ṛishi-sampradāyo dharma iti kṛitvā Yājñikāḥ śāstreṇānuvidadhate*, *Bhāshya*, I.9, and *vār*. *Aprayukte dīrghasattravat*).

SOMA-Pressing of Soma was known as *sutyā* (III.3.99), and one who pressed it as *Somasut* (III. 2.90). After the ceremony the *yajamāna* who pressed the Soma was called *sutvā* (III. 2.103), corresponding to the other title *yajvā*, 'one performing a sacrifice'.

The drinking of Soma depended on the fulfilment of certain spiritual and material conditions. According to Pāṇini he who had the requisite qualification to drink Soma was called *Somya* (*Somam arhati yaḥ*, IV. 4. 137). In the opinion of the *Yājñika* school as quoted by Patañjali, that person was entitled to drink Soma in whose family there was no social stigma in the ten preceding generations (*Evaṁ hi Yājñikāḥ paṭhanti, Daśapurushānūkaṁ yasya grihe śūdrā na vidyeran sa Somaṁ pibediti*, *Bhāshya*, IV. 1.93; II. 248). Manu looks at the problem from an economic point of view: 'He who owns food to last for three years or more so as to maintain his dependants, is entitled to drink Soma (*sa somaṁ pātum arhati*, *Manu*, XI. 7; also *Kāśikā*, VII. 3.16). 'He should lay by the minimum prescribed store lest his labour be wasted' (XI. 8). In the Soma ceremony the priests (*yājakas*) might press the Soma plant, but the credit of performing the Soma *yajña* belonged to the actual *yajamāna* who was in reality the beneficiary (*pradhāna kartā*) of that sacrifice. A special expression was current to designate him as *sunvan* (*Suño yajña-saṁyoge*, III. 2.132). On the other hand in a *sattra*, i.e. a Soma *yāga* lasting for more than twelve days, the number of priests ranges from 17 to 25 (*saptadaśāvarāḥ pañchaviṁśatiparamāḥ*), all of them enjoy the status of *yajamānas* (*sarve yajamānāḥ, sarve ṛitvijaḥ*), all are *āhitāgnis*, all sharing the fruits of the *yajña* equally, and since it is a corporate endeavour no one pays or expects any fee, and all of them perform the act of pressing the Soma juice. This arrangement is reflected in the phrase *sarve sunvantaḥ sarve yajamānāḥ sattriṇaḥ uchyante* (*Kāśikā* on III. 2.132, *Suño yajña-saṁyoge*).

NAMES OF FIRES (*AGNYĀKHYĀ*, III. 2.92)—*Agni* as an agent carrying the offering of the sacrificer to the gods is spoken of as *havyavāhana* (III. 2. 66), and to the manes as *kavyavāhana* (III. 2.65). In these two capacities it receives the offerings with the formula *Svāhā* and *Svadhā*, respectively (II. 3.16). The former was called *Chitya agni* (III. 1. 132) used for performing the Śrauta sacrifices. Of

the Three Śrauta Fires (*śrautāgnayaḥ*), mention is made of Gārhapatya (IV. 4.90), and of the Dakshiṇāgni under the special name of *Ānāyya* which was brought from the Household Fire and not retained (*Ānāyyo' nitye*, III. 1. 127 ; with *Bhāshya* II. 89).

The word *ānāyya* is of uncommon interest. The Śrautāgni is kindled with *araṇī* and perpetually maintained by an *āhitāgni* as Gārhapatya *agni* in the *vedi* of that name. The other two altars are Āhavanīya and Dakshiṇāgni. The intending sacrificer takes the *agni* from his Gārhapatya altar to the other two. In the case both are called *ānāyya* temporarily, since after the oblations are over the fires in the Āhavanīya and Dakshiṇāgni lose their sacred character. But besides the Gārhapatya Fire there were other recognised sources for feeding the Dakshiṇāgni ; for example, as a temporary measure the Dakshiṇāgni could be borrowed from a frying-place (*bhrāshtra*), a Vaiśya-kula, or from a new home where the proper *śrautāgni* had not yet been installed. In such a contingency the word *ānāyya* denoted only the Dakshiṇāgni. (*ānāyyo Dakshiṇāgniḥ ; rūḍhiresha, Kāśikā*).

The three stages in the kindling of the Fire are appropriately referred to as *parichāyya*, its showy assemblage and adornment in the beginning *alaṃkaraṇa* ; cf. *parichāyyaṁ chinvīta grāmakāmaḥ, Śat. Br.* V. 4.11.3) ; *upachāyya*, its augmenting or blazing forth (*saṁvardhana*) in the middle ; and *samūhya* (III. 1.132), its final form consisting of ashes and rubbish swept or heaped together, for which the graphic phrase *samūhyapurīsha* was current (*Ś. Br.* VI. 7.28 ; *Kāt. Śr.* XVI. 5.9.10).

Special kinds of *vedis* which were made twice or thrice the usual size, were known as *dvistāvā, tristāvā* (V. 4.84). The normal size of the platform in the Darśa-Paurṇamāsa was 27 ft. × 13½ ft. (36 *vitastis* long and 18 broad). On this platform different fire-altars were built, each being called a *sthaṇḍila* (IV.2.15 ; same as *kuṇḍa* in *smārta yajñas*).

These altars were made of different shapes referred to in the *sūtra Karmaṇy-agnyākhyāyām* (III.2.92), *e.g. śyena-chit*, *kaṁkachit* (*Kāśikā*), *droṇa-chit* (square), *ratha-chakra-chit* (round), *praüga-chit* (triangular), *ubhayataḥ praüga-chit* (double triangle; *Kāt. Śrauta*, XVI.5.9). These were special *agnis*, the arranging of which was called *agni-chityā* (III 1.132). The altars were piled up (*chityā*, III.132) with bricks, which were given special names after the particular *mantras* used for building them (*Tadvānāsām ūpadhāno mantra itīshṭakāsu luk cha matoḥ*, IV.4.125). Important words occurring in the *mantras* used for laying the bricks were selected as their names, *e.g. Varchasyā*, *Tejasyā*, *Payasyā*, and *Retasyā*, ancient words for particular bricks. Pāṇini mentions in particular the bricks called *Āśvinī* (IV.4.126). One who consecrated these sacrificial Fires was known as *agni-chit* (III 2.91).

OTHER ACCESSORIES—*Yajña* required a number of accessory articles of which some are mentioned in the *Ashṭādhyāyī*. That place in the *yajña* was called *Saṁstāva* (III.3.31) where the Chhandoga singers sang the hyms in the Soma *Kratus*, a sort of *stuti-bhūmi* (*Amara*). Another portion was the *avaskara* for throwing refuse (IV.3.28), also called *utkara*. The *kuśa* grass, necessary for sacrificial ceremonies is referred to as *pavitra* which had become a *saṁjñā* word (*Puvaḥ saṁjñāyām*, III.2.185 ; cf. *Yaju.* I. 2, 3, 12). The Soma plant was required for Soma sacrifices. Patañjali mentions *pūtīka* grass as a substitute for Soma, but observes that Soma had not become obsolete (*na cha tatra somo bhūtapūrvo bhavati*, I.1.56, I.137).

The sacrificial utensils (*yajña-pātra*, I.3.64), specially the cups for drinking Soma, were arranged in pairs which is given as one of the meanings of the word *dvandva* (*yajña-pātra-prayoga*, VIII.1.15). Two Soma-cups (*grahas*) are named, *kshullaka-vaiśvadeva* (cf. *Kāt. Śr.* IX.4.1) and *mahā-vaiśvadeva* (*Kshullakaścha Vaiśvadeve*, IV.2.39, cf *Kat. Sr.* X. 6.2. for *mahāvaiśvadeva*). Oblation is mentioned as *havi*, a special form of which was known as *sāṁnāyya* (III.1.129),

which is said to consist of curd from the cow's milking of the previous evening (*sāyaṁdoha*) taken with fresh milk of the following morning (*prātardoha*) and offered together to Indra in the New Moon sacrifice (*saṁ + nī*, to mix).[1]

PRIESTS.—The generic term *ṛitvij* (III.2.59) was applied to all classes of priests employed at a sacrifice. The priests must have been Brāhmaṇas as in the Vedic period (*Vedic Index*, I.112). This is suggested by the epithet *ārtvijīna* (V.1.71) denoting a person qualified in priestly duties (*ritvik-karmārhati*, *Kātyāyana*) which according to Patañjali was applied to a member of a Brāhmaṇa family. The *Shaḍviṁśa Br.* explains *ārtvijīna* as one who is able to expound those Vedic texts which are used in *yajñas* (*esha ārtvijīno ya etaṁ vedam anubrūte*, I.3.16). According to Patñjali an *ārtvijīna* should be able to utter the Vedic speech according to its proper *pada*, *svara* and *akshara* (*Bhāshya*, I.3). A priest with reference to his duties on behalf of the *yajamāna* was called *yājaka*; *sūtra* II.2.9 implies that the word *yājaka* was compounded with another denoting the sacrificer, *e.g.* *Brāhmaṇa-yājaka*, *Kshatriya-yājaka*.

Selection of priests must have depended on their special knowledge of the ritual for which they were invited. Pāṇini refers to the emergence of experts who made a special study of the complicated ritual of Soma-kratus like Agnishṭoma and Vājapeya, and were named *Agnishṭomika*, *Vājapeyika* after those rituals (*Kratūkthādisūtrāntāṭ-ṭhak*, IV.2.60). For such important sacrifices the invitations would naturally be issued to them. Along with their pupils these masters cultivated advanced studies of those specialized *Kratu* texts (*kratu visheśavāchibhyash-ṭhak pratyayo bhavati tadadhīte tad-vedetyasmin vishaye*, *Kāśikā*).

1 There are three oblations in the Darśa sacrifice, the first is the sacrificial cake for Agni (*āgneya puroḍāśa*), the second curds for Indra (*aindraṁ dadhi*), and the third milk for Indra (*aindraṁ payaḥ*). The last two make up the *sāṁnāyya yāga* in wihch the deity is single but the oblations to him being different are added and offered together. Firstly curd is taken in the *juhū* and then milk is poured on it.

In the ritual as given in the *Brāhmaṇas*, the number of priests is sixteen, classed in four groups (*Vedic Index*, I.113).[1] Of those connected with the *Ṛigveda*, Pāṇini mentions Hotā, Praśāstā (VI.4.11), and Grāvastut (III.2.177), the Praśāstā known as Maitrāvaruṇa also. The Grāvastut praised the *grāvā* or stones for pressing Soma. The Hotā recited the *yājyā* and *anuvākyā* verses.

Of the *Sāmveda* priests, Pāṇini refers to Udgātā in *sūtra* V.1.129, and to his assistant Pratihartā in its *gaṇa*.

The duties of the various priests were indicated by the addition of suffixes to their names, those of the Udgātā being called *audgātra* (V.1.129) and of the Adhvaryu, *ādhvaryava* (IV.3.123). Adhvaryu's assistant Neshṭā (VI.4.11) belonged to the Soma ritual whose duty it was to lead forward the wife of the sacrificer. The importance of the Adhvaryu increased with the growth of the complicated ritual in which differences of opinion also arose in course of time. It appears that the followers of each special recension of the *Yajurveda* adopted the ritualistic peculiarities of their own School. The insistence on the two-fold variations of ritual according to locality and *śākhā* (*āmnāya*) resulted in the growth of special Adhvaryus who were designated by particular names. This is reflected in *sūtra* VI.2.10, *Adhvaryu-kashāyayor jātau*, e.g. Prāchyādhvaryu, priests belonging to east India who were affiliated to the *Śukla Yajurveda*. The followers of the special schools of the *Krishṇa Yajurveda* were distinguished by the names of their *śākhās*, as Kaṭhādhvaryu, Kalāpādhvaryu, etc.

Of *Atharvaveda* priests, Pāṇini mentions Brahmā (V.1.136), Agnīdh (VIII.2.92) and Potā (VI 4.11). Brahmā

[1] 1. होता, मैत्रावरुण, अच्छावाक्, ग्रावस्तुत् ।
2. उद्गाता, प्रस्तोता, प्रतिहर्ता, सुब्रह्मण्य ।
3. अध्वर्यु, प्रतिप्रस्थाता, नेष्टा, उन्नेता ।
4. ब्रह्मा, ब्राह्मणाच्छंसी, आग्नीध्र, पोता ।

must have emerged as the general supervisor of the ritual, as is indicated by his duties (*karma*) designated by the special term *Brahmatva* (V.1,136). The epithet Mahā-Brahmā 'Chief of the Brāhmaṇas (V.4.105, in which Brahman = Brāhmaṇa) seems to have been derived from the privileged position of the Brahman priest, who as early as the *Ṛigveda* (I.162.5) was called *suvipra*, a sage or priest of profound knowledge acting as superintendent of the whole ceremony.

The sons of *ṛitvijs* have been specially noticed as *Ṛitvik-putra* and *Hotuḥ-putra* (VI.2.133). These names were derived from sons who followed the calling of their fathers.

RECITATION OF MANTRAS—*Yajña* implies the invoking of deities with recitation of *mantras* (*mantrakaraṇa* I.3.25). Recitation in concert (*sahochchāraṇa*) marked by clear tone and accent was called *samuchchāraṇa* (I.3.48). Invocation of deities was *nihava* and *abhihava* (III.3.72).

YĀJYĀ VERSES—Pāṇini refers to the technical details of repeating the *Yājyā mantras* in a sacrifice (*Yājña-karmaṇi*, VIII.2 88-92). The *Yājyās* were all selected hymns from the *Ṛigveda* and enumerated in the Hautra-kāṇḍa of the *Āśvalāyana* and other *Śrautasūtras*. The Hotā priest recites the *Yājyā* and *Puronuvākyā* verses as often as the Adhvaryu commences a set of oblations. The latter priest does not recite any *mantra*; he only gives directions (*praisha*) to the Hotā whose privilege it is to recite the appropriate *mantra* ending with the formula *Vaushat*, on hearing which the Adhvaryu throws the oblation into the fire.

This complicated ceremony is arranged as follows :

(1) *Puronuvākyā* and *Anubrūhi*. It is the first *praisha* or direction that the Adhvaryu gives to the Hotā to recite the preliminary laudatory verses called *Puronuvākyā* in praise of the deity who is to be invoked. According to *sūtra* VIII.2.91 the formula must be uttered with a pluta accent, as अग्नयेऽनुब्रू३हि ।

(2) In response to this *praisha* the Hotā recites the *Puronuvākyā* verse, the last letter of which is followed by a *praṇava* pronounced with *pluta* accent (VIII.2.89), *e. g.* अपांरेतांसि जिन्वतो ३म् । According to the *Śatapatha*, *Puronuvākyā* is used for invoking the deity and the *Yājyā* for giving the oblation (*hvayati vā anuvākyayā prayachchhati yājyayā*, I.7.2.17). After the Hotā has repeated the *puronuvakyā* verse, the actual *yājyā* is recited (*atha yadanuvākyām anūchyā yājyayā yajati*, *Śatapatha*, XI.4.1.12). Both form one pair. In some cases, as pointed out by the *Śatapatha*, the *puronuvākyā* was dropped (*atha yad-apunarvākyakā bhavanti*, XI. 4. 1. 12), and therefore its *praisha* (*anubrūhi*) was not counted in the set of five directive formulas comprising 17 letters.[1]

(3) *Āśravaṇa*. The Adhvaryu, Agnīdh and Hotā priests having taken their seats round the Vedi, the Adhvaryu calls upon the Agnīdh (cf. Agnimindha of Ṛigveda I 162.5), an assistant of Brahmā, whose duty it was to guard the sacrifice against the Asuras. He sat near the *utkara* and held a wooden sword (*sphya*) in hand. The order to him (*agnīt-preshaṇa*, also called *āśravaṇa*) consisted of the formula आ३ श्रा३वय with its variant in some *śākhās* as ओ ३ श्रा ३ वय (*Agnīt-preshaṇe parasya cha*, VIII.2.92). This *praisha* signified 'Please notify the sacrifice to the gods, as all is well'.

(4) *Pratyāśravaṇa*. To this the Agnīdh responded by a *pratyāśravaṇa* formula, अस्तु श्रौ३षट् pronounced with pluta accent (*sūtra*, VIII.2.91), the meaning being 'Let the gods be notified; everything is O.K.' (cf. *Āśv. Śr.* 1.4, *astu śraushaḍ ity aukāraṁ plāvayan*).

1. The following verse interpolated in the Bhishmastavarāja of the Śāntiparva refers to the *Yājyā* verses :

चतुर्भिश्च चतुर्भिश्च द्वाभ्यां पंचभिरेवच ।
हूयते च पुनर्द्वाभ्यां तस्मै होमात्मने नमः ॥
(Verse added after 47.27 in the Critical edition)

आश्रावयेति चतुरक्षरम्, अस्तु श्रौषडिति चतुरक्षरम्, यजेति द्व्यक्षरम्, ये यजामहे इति पंचाक्षरम्, द्व्यक्षरो वषट्कारः । एष वै सप्तदश प्रजापतिः यज्ञमन्वायत्तः
(*Tait. Br.*, *Kāṇḍa* II).

(5) *Yājyā-praisha.* Thus getting a line-clear from the Agnīdh, the Adhvaryu turns to the Hotā with the directive '*Yaja*', on hearing which the Hotā begins to recite the *Yājyā*. There is no *pluta* in the *Yaja* formula, which is uttered in monotone (*ekaśruti*).

(6) *Āgūrta* formula (also called *abhigūrta*, cf. *Ṛig.* I.162. 6; Haug, *Aitareya Br.*, Intr., XVIII) consists of the words ये ३ यजामहे 'We who are assembled here all give our approving help to promote the *yajña*' (*Ye yajñakarmaṇi*, VIII.2.88) which always precedes the *Yājyā* verse.

(7) *Ishṭa* or *Yājyā*. As said above select verses from the *Ṛigveda* for invoking particular deities are called *Yājyā*, which constitute the actual *mantras* for throwing the oblation. Their last syllable is *pluta* (*Yājyāntaḥ*, VIII.2.90). The *Yājyā* is preceded by *Ye yajāmahe* and followed by the formula *Vaushaṭ*, e. g. ॐ ये यजामहे समिधः समिधोऽग्न आज्यस्य व्यन्तु३ वौ३षट्।

(8) *Vashaṭkāra*—As seen above, it was added after each *Yājyā* verse and pronounced by the Hotā as *pluta* and in a very loud voice (*Uchchhaistarāṁ vā vashaṭkāraḥ*, I. 2. 35; cf. *Ait. Br.* III. 1. 7, *śanaistarām asya ṛicham uktvochchaistarāṁ vashaṭ kuryāt*; *i. e.* the *yājyā* verse to be repeated with a very low and the *vashaṭkāra* with a very loud voice) As soon as *Vaushaṭ* is uttered the Adhvaryu throws the oblation into the fire. *Vashaṭ* (I. 2. 35; II. 3. 16) and *Vaushaṭ* (VIII.2.91) were variants of one and the same word, just as आ३श्रावय and ओ३श्रावय were variants in the different *Sākhās.*

(9) *Vītam* and (10) *Anuvashaṭkāra* (I. 2. 35; VIII. 2.91). In the Soma *yāga* after the *yājyā* verse and *vashaṭkāra*, another formula is repeated, e. g. सोमस्याग्ने वीही ३ वौ ३ षट् 'O Agni, taste the Soma !'. According to the Aitareya (III. 1.5) in this way the deities are satisfied by a repeated request to them to drink the remaining Soma juice. The *Vīhi*

formula is called *vītam* and the *vashaṭ* added to it *anuvashaṭkāra* (Haug, *Ait. Br.*, p. XVIII).

ĀVĀHANA—In the Darśa-Paurṇamāsa Ishṭis, there are five oblations (*Pañcha-prayājas*)[1] which constitute the first part (*pūrvāṅga*) of the sacrifice (*Prayājānuyājau Yajñāṅge*, VII. 3.62) and three secondary oblations called *anuyājas*.[2] In a *Paśu-yāga* their number is raised to eleven. Of the five *prayājas*,[1] the last one is *svahākāra* oblation, when the deity is invoked by the formula *āvaha*, for which Pāṇini prescribes *pluta* accent, *e. g.* अग्निमा३ वह (VIII. 2.91).

MONOTONE (*EKASRUTI*)—The strict rule of reciting Vedic *mantras* with correct three-fold accent (*traisvarya*) was gradually being relaxed. Pāṇini, like the *Kātyāyana Srauta-sūtra* (I. 8.16-19), was making a note of the tendencies current in his time when he says that the *mantras* were recited with monotone (*ekaśruti*; *ekatāra* in *Kāt. Sr.*, I. 8.18) in the *yajñas*, excepting the few cases of *Japa*,[3] Sāman songs and the special *Nyūṅkha* accents[4] (*Yajñakarmaṇyajapa-nyūṁkha-sāmasu*, I. 2.34). Jaimini made a vigo-

1. Five *prayājas*, *viz.* समिधो यजति, तनूनपातं यजति, बर्हिर्यजति, इडो यजति, स्वाहाकारं यजति (*Śatapatha*, I. 5.3.1-13, comparing them with 5 seasons). On account of the five oblations or *āyjāhutis*, accompanied by their appropriate invocations the *Yajña* is referred to in the Śāntiparva as *daśardha-havirakritim*,' 'whose form is made whole by five *havis* (47.27).

2. *Trayo'nuyājas-chatvāro patnī-samyājāḥ*, *Śat. Br.* XI. 4.1.11. The *Kāśikā* seems to be mistaken in stating that there were 5 *anuyājas* and 8 *patnī-saṁyājas*. In the Paśubandha sacrifices the number of *prayājas* and *anuyājas* is eleven each. The 4 *patnī-samyājas* were offered by the *Yajamāna's* wife after the *anuyājas* in the Darśa-Paurṇamāsa Ishṭi. The 8 *patnī-saṁyājas* are, however, prescribed, as an option, by the *Baudh. ŚSr.*, 24.29.

3. The *Japa mantra* is *Yajurveda*, II. 10, *Mayidamindra indriyam*, etc., uttered by the *Yajamāna* with three-fold accents (*Kāt. Śr.* III. 4.18).

4. *Nyūṅkha* is a reciation by the Hotā at the morning libation of a Soma *yāga*, comprised of 16 *okāras*, e. g.

आपो ३ ओ ओ ओ ओ ओ ओ ३ ओ ओ ओ ओ ओ
ओ ३ ओ ओ ओ रेवती: क्षयथा हि वस्व: क्रतुं च भद्रं विभृथामृतं च
रायो ३ ओ ओ ओ ओ ओ ओ ३ ओ ओ ओ ओ ओ ओ ३

rous attempt to restore the old practice of reciting Vedic *mantras* with their threefold accent whether for study or for ritual purposes (*Mīmāṁsā*, XII. 3.20-24; D. V. Garge, Jaimini Sabara and the Science of Grammar, *A.B.O.R.I.*, XXX, 254-5). But it seems to have been a losing battle against heavy odds. The *Tait. Pr.* also records the practice of monotone (*sarvam ekamayam*, *T. Pr.* XV. 9).

SUBRAHMAṆYĀ—The *Subrahmaṇyā* formula also had its definite rules of accentuation (I. 2.37-38). It was a loud invocation addressed to Indra in the Jyotishṭoma and other Soma sacrifices (cf. *Kullūka* on *Manu*, IX. 126; *Kāt. Śr.* IX. 1.12; Haug, *Ait. Br.*, p. 260).[1]

Upayaj was the special name (III. 2.73) of the eleven short formulas (*samudram gachchha svāhā*, etc.) given in the *Yajurveda* VI.21. Reference is made to the *sāmidhenīs*, the eleven verses of the *Ṛigveda*, III.27.1-11, used for enkindling the fire. The first and the last are each repeated thrice and thus we make fifteen *sāmidhenīs* for the Darśa-Paurṇamāsa Ishṭis. Of these *Ṛig.* III. 27.4 is called *samidhyamānavatī* and III. 27.11 *samiddhavatī* by the words *samidhyamānaḥ* and *samindhate* used in them. Sometimes extra verses are brought in from outside, *e.g. ekaviṁśatim anubrūyāt pratish-*

ओ ओ ओ स्थः स्त्रपत्यस्य पत्नी । सरस्वती तद्गृणते वयो धो ३मा३ पो ३ । ऋ०
१०।३०।१२

The first word in each half-*rich* is written with 16 *nyūṅkha okāras* added after its second vowel, comprising three *plutas* and thirteen *ardho-kāras*. (See also Ṛigveda, X 94.3, *nyuṅkhayante*).

1. The *Shaḍviṁśa Brāhmaṇa* I. 1.8-18 explains in detail the several parts of the Subrahmaṇyā formula (*nigada*) as follows :

सुब्रह्मण्यो३म् (repeated thrice), इन्द्रागच्छ, अहल्यायैजार, कौशिकब्रुवाण,
गौतमब्रुवाण इत्यहे सुत्यामागच्छ मघवन् ।

Then the remaining formula (*nigada-śesha*) is repeated

देवा ब्रह्माण आगच्छतागच्छतागच्छतेति

(cf. Panini, I. 2.38).

Here *brahmāṇaḥ* is explained as *manushyadevāḥ* referring to *Brahmaṇas* who are full of reverence and learning (*śuśruvāṁso'nūchānāḥ*, *Ṣad. Br.* I. 1.28).

thākamasya, i.e. the person desirous of stability should use 21 *sāmidhenīs*. In such cases the extra verses should be accommodated between *samidyamānavatī* and *samiddhavatī*, and all the verse between them are therefore called *dhāyyās* (*sūtra*, III.1.129).

The mention of these minute details shows that Pāṇini was in touch with a living tradition of the sacrificial ritual or *yajñas*. The title *pūtakratu* seems to have assumed a new significance, denoting the man whose mind was purified by the potions of Soma drunk at the *Kratus*. His wife, Patnī, who was his partner in the sacrifices (*yajña saṁyoga*, IV.1.33) shared in this distinction and was thence called *pūtakratāyī* (IV.1.36).

The institution of *yajñas* had a vital economic interest for the officiating priests in that they received the *dakshiṇā* or sacrificial fee about the distribution of which instructions are contained in the law-books. We are told that the particular sacrificial guerdon was called after the name of the sacrifice for which it was paid (*Tasya cha dakshiṇā yajñākhyebhyaḥ*, V.1.95). Examples are cited of the particular fees paid at the Rājasūya, Vājapeya and Agnishṭoma sacrifices, called *āgnishṭomikī*, etc., of which minimum units must have come to be fixed. The word *dakshiṇya* was applied to one whose merits entitled him to receive the proper *dakshiṇā* (V.1.69).

The social relationships arising out of sacrifices as between priests and *yajamāna* constituted one of the happiest features of domestic life. Patañjali refers to these as *srauva sambandha* (I.119) distinguished from those of blood (*yauna*), economic life (*ārtha*) and academic relationships (*maukha*). He also refers to certain priests marked by red turbans on their heads (*lohitoshṇīshā ṛitvijaḥ*, I.1.27 I.826) officiating for the Vrātya. (*Kāt. Śr.*, XXII.3.15).

CH. VI, SECTION 3. ASCETICS

Pāṇini refers to religious mendicants as *bhikshus* (III.2, 168) from their obligatory duty of begging; whence they were also known as *bhikshāchara* (III.2.17). The ordinary beggar was known as *bhikshāka* (III.2.155). Pāṇini mentions both Brāhmanical ascetics and heretical sects. As to the former he mentions those following the *Bhikshu-sūtras* promulgated by Pārāśarya (IV..3.110), and Karmanda (IV. 3.111); of the latter reference is made to Maskarī mendicants (*maskarī parivrājaka*, VI.1.154) who were most probably the followers of Makkhali Gosāla. The term *tāpasa* (V.2.103) or *tapasvin* (V.2.102) was applied to an ascetic practising penance. This was denoted by the special root *tapasyati* (III.1.15). The several epithets like *śamī*, *damī*, *yogī*, *vivekī* and *tyāgī* (III.2.142) were indicative of the stages of spiritual culture. There are also two other terms *dānta* and *śānta* (VII.2.27), signifying control of the senses and the mind. The use of the term *yogī* points to Yoga as a system of spiritual discipline then known.

A mendicant subsisted on what he obtained by begging. The word *sarvānnīna* was applied to a person who accepted all kinds of food in his begging rounds (V.2.9). The *Kāśikā* states that a monk indiscriminately accepting alms from persons was so called. Some ascetics lived by gleaning corn (*Uñchhati*, IV.4.32). The *uñchhavritti* ascetics held stock of corn to last for some time. In *sūtra* VI.2.9. Pāṇini explains the word *śārada* as 'new'. Literally *śārada* should denote that which belongs to the Śarad season. The transition of meaning can be understood from Manu stating that a *muni* should gather his stock of corn twice a year, which was called *vāsanta* and *śārada* respectively after the names of the two crops harvested annually (*Manu*, VI. 11). It is further laid down that he should

renew his clothing and corn in the month of Āśvayuja, *i. e.* the beginning of autumn (*Manu*, VI.15). These fresh stocks obtained in Śarad were responsible for the secondary meaning of *śārada* as 'new'. The word *naikaṭika* (*nikaṭe vasati*, IV.4,73) is taken by the commentators to refer to a monk who had become a Vānaprastha, and in obedience to the rules of his order took his abode near the village outside it. Similarly *kaukkuṭika* is taken by the *Kāśikā* as a mendicant who walks with his gaze fixed to the ground to avoid harming life (IV.4.46).

There were also sham ascetics, called *dāṇḍājinika* (V.2.76) *i.e* one who passes for an ascetic by the outward signs of staff and deer-skin only.

ĀYAḤŚŪLA—Pāṇini refers to a class of false ascetics known as *āyaḥśūlika*, 'who flourished by the method of *ayaḥśūla* or iron spikes' (V.2.76). Patañjali's comment is of some historical interest. 'If *ayaḥśūla* literally means an iron spike, the word so formed will apply to a Śiva-Bhāgavata which is not the intention of Pāṇini's *sūtra*. Therefore the term *ayaḥśūla* indicates the practice of violent methods (*rabhasa*) to recruit followers as distinguished from the softer method of persuasion and instruction' (*mṛidu upāya*, *Bhāshya*, V.2.76). Patañjali here gives the information that there was a sect of the Śiva-Bhāgavatas who worshipped Śiva as Bhagavān and whose outward sign was an iron trident (*Ind. Ant.*, 1912, p. 275). As opposed to them the *āyaḥśūlika* Śaivas pierced their tongue or arms or other parts of the body with iron prongs and extracted forced sympathy.

MASKARIN—Pāṇini mentions *Maskarin* as a *parivrājaka* (VI.1. 154, *Maskara-maskariṇau veṇu-parivrājakayoḥ*). Here Maskarin is taken to be the name of Maskarī Gośāla, the founder of the Ājīvika order and a contemporary of the Buddha. Patañjali enlightens us on this point as follows : 'A Maskarin *parivrājaka* is not so-called because there is a *maskara* (bamboostaff) in his hand. What else is then the explanation ? Do not perform actions, but seek peace as the

highest end. This is their teaching, who are therefore called Maskarins' (*Mā kṛita karmāṇi mā kṛita karmāṇi, śāntirvaḥ śreyasītyāhāto Maskarī parivrājakaḥ*, *Bhāshya*, III. 96). No doubt Patañjali's reference is to the philosophy of inaction taught by the great teacher Makkhali Gośāla whose identity with Maskarī thus become a certainty. He was a Determinist who ascribed every cause to fate or destiny (*niyati*). He held that the attainment of any given condition or character does not depend either on one's own acts, or on the acts of another, or on human effort. There is no such thing as power, energy, human. strength or vigour. All beings are bent this way and that by their fate. In his system chance (*yadṛichchhā*) has no place, but everything is ordered by an immutable Fate (*Niyati*) (*Dict. of Pāli Proper Names*, II. 398). According to Buddhist books Makkhali was considered by the Buddha as the most dangerous of the heretical teachers.

The identification of Maskarī with the founder of the Ājīvika sect, if accepted as is highly probable, is of the utmost importance for the relative chronology of Pāṇini himself. Another evidence in the *Ashṭādhyāyī* supports Pāṇini's knowledge of the philosophical school of Makkhali. He refers to three kinds of philosophic beliefs (*mati*), viz, *Astika*, *Nāstika* and *Daishṭika* (IV. 4. 60). *Mati* here corresponds to *diṭṭhi* of the Buddhists signifying a philosophic doctrine. The *Astika* philosophers were those whom the Buddhist books call *Issarakāraṇavādī* or the Theists, who held that everything in the universe traces itself to Īśvara as the supreme cause (*ayaṁ loka issaranimmito*, Mehta, *Pre-Buddhist India*, p. 333). The *Nāstika* philosophers correspond to those who are called *Natthikadiṭṭhi* in Buddhist works (C. D. Chatterji, A Hist. Character in the Reign of Aśoka, *Bhandarkar Com.* Vol., p. 330). These included the Annihilationist school of another great teacher Ajita Keśakambalī (*ito paralokayatanāma n'atthi, ayaṁ loko ucchijjati*, *Jāt.*, V.239). This was a materialistic doctrine famous as the Lokāyata school. The third category of thinkers who are mentioned as *Daishṭika* by Pāṇini certainly refers to

the followers of the determinist philosophy preached by Makkhali Gośāla who repudiated the efficacy of *karma* as a means for improving the lot of human beings.

In the canonical scriptures of the Jains, Makkhali Gosāla has been mentioned as Gosāla Maṅkhaliputta (*Uvāsaga Dasāo*, Hoernle, p. 97), while in the Sanskrit Buddhist texts he figures under the name of Maskarī Gośāliputra (*Divyāvadāna*, p. 143) (Chatterji, op. cit. p. 331, who concludes that Makkhali was undoubtedly a Maskarī ascetic). The views of this teacher are echoed in the Brahmanical literary tradition under the name of Maṅki who discarded *pauruṣha* in favour of a belief in destiny alone (*Śuddhaṁ hi daivamevedaṁ haṭhe naivāsti paurusham*) and preached *nirveda* (cf. the doctrine of *Śānti* attributed to Maskari in the *Bhāshya*) as the best principle (Śānti-parvan, Ch. 177, vv. 1-14).

As Mr. C. D. Chatterji has shown there were various traditions about the accurate form of Gośāla's name; Maṅkhali was the form according to the Jaina Prakrit and a tradition in the *Bhagavatī Sūtra* makes him the son of a mendicant or beggar (*Maṅkham*, *Bhag. Sūtra*, XV. 1). We have no doubt that Maṅki of the *Mahābhārata* represents the name Maṅkhali in an abbreviated form. Pāṇini explains *Gośāla* as one 'born in a cowshed' (*sūtra*, IV.3.35), which accords with the traditional explanation of this part of Makkhali's name.

ŚRAMAṆA—Pāṇini refers to *Śramaṇas* and unmarried female ascetics (*kumārī śramaṇā*, II.1.70). This *sūtra* is connected with another in the *Ashṭādhyāyī*, viz., *Kumāraś-cha* (VI.2.26) which regulates the accent of the word *kumāra* in such compound words as *kumāra-śramaṇā* and others of this class. This *gaṇa* also mentions *kumāra-pravrajitā*, and *kumāra-tāpasī*, a girl embracing the life of a wanderer, and a girl taking to penance. In the oldest *Srautasūtra* literature the meaning of *śramaṇa* is an ascetic in general; for example, in Baudhāyana a *muni* is described

as *śramaṇa* and asked to offer *puroḍāśa* to Agni standing in knee-deep waters of the Sarasvatī (*Baud. SS*, XVI.30, ASB, edit., p. 276).

Patañjali, however, states that the Śramaṇas and the Brāhmaṇas belonged to different religious groups whose opposition was of a permanent nature (*yeshāṁ cha virodhaḥ śāśvatikaḥ*, Pāṇini, II.4.9, *ityasyāvakāśaḥ Śramaṇa-Brāhmaṇam*, *Bhāshya*, I.476 on *sūtra* II.4.12). It shows that Śramaṇa in grammatical literature referred to non-Brahmanical ascetics.

Early Buddhist literature distinguishes between Brāhmaṇas and Śramṇas as distinct ascetic orders. King Alābu addresses the Bodhisattva as Samaṇa (*Jāt.*, III.40). The *Udāna* says that there were very many and various sectaries of Śramaṇas and Brāhmaṇas, all Parivrājakas, followers of different *Diṭṭhis*, i.e. *Darśanas* or Systems, and organisations (*sambahulā nānātitthayā Samaṇa-Brāhmaṇā paribbājakā nānādiṭṭhikā nānadiṭṭhi-nissayanissitā*, P. T. S. edition, p. 66-67). The *Anguttara* (IV.35) mentions two classes of ascetics whom it calls Parivrājakas, *viz.* (1) Brāhmaṇa and (2) Annatitthiya, *i.e.* other non-Brahmanical ascetics. The Greek writers of Alexander's time also noticed these two classes of ascetics, the Brāhmaṇas and Śramaṇas (*Strabo*, XV.1.59, M'Crindle, 1901, p. 65, footnote). In the inscriptions of Asoka the Brāhmaṇa and the Śramaṇa ascetics are separately mentioned as worthy of equal honour.

The reference to monk's garment (*chīvara*), and the verb *saṁchīvarayate*, 'he dons the monk's robe' (III.1.20) again smack of the institution of Buddhist monks, as *chīvara* signified only monk's dress (cf. *tichīvara*, *Jāt.*, III. 471 ; *paṁsukūla chīvara Jāt.*, IV.114).

The word *Arhat* was applied to a person worthy of reverence (*Arhaḥ praśaṁsāyām*, III.2.133). The state of being an *Arhat* was *ārhantya* (*arhato num cha*, *Gaṇa-sūtra*, V.1.24).

Pāṇini refers to a class of ascetics called *yāyāvara* (III.2.176). According to the *Baudhāyana Dharmasūtra*, 'To be a *yāyāvara* means that one proceeds by the most excellent livelihood' (*vrittyā varayā yāti*, III.1.4), and 'the word *śālīna* is used for them because they dwell in houses (*śālā*, III.1.3). Most probably it referred to those house-holders who like Janaka lived in their home although following the ascetic discipline. The *Srautasūtra* of Baudhāyana adds that, even when itinerant, the Yāyāvara mendicants halted on the way and performed fire oblations (XXIV.31, तश्नोदाहरन्ति यायावरा ह वै नामर्षय आसँस्तेऽध्वन्य श्वाग्यँस्ते समस्तमजुहवुः).

CHAPTER VI, SECTION 4.

RELIGIOUS BELIEFS & PRACTICES

The other aspects of religious life included domestic rites, vows like *Chāndrāyaṇa* (V.1.72), and *Japa* or repetition of *mantras* (I.2.34). One who took the vow of restraint of speech was called *vāchaṁyama* (III.2.40), and similarly the vow to sleep on hard ground *sthāṇḍila* (IV.2.15). These epithets applied to one observing *pārāyaṇa*, a Brahmachāri or a *bhikshu* (IV.2.15). One who silently performed *Japa* as a habit (*tat śīla*) was called *jañjapūka* (III.2.166). Such muttering would sometimes be for mere show or a sham practice (*bhāvagarhāyām, jañjapyate*, III.1.24). Reference is also made to the offering of *bali*, probably to different deities (II.1.36), *e.g. Mahārāja-bali* offered to the Mahārāja class of deities like Kubera. Special food stuffs selected for preparing *bali* were called *bāleya* (V.1.13).

ŚRĀDDHA—Reference has already been made to the fire *kavyavāhana* (III.2.65) to carry oblations to the manes. The *Pitṛis* are mentioned as *devatās*, deities to whom oblations called *pitryam* were offered (IV.2.31). The *śrāddha* ceremony held in the Śarat season (the *Pitṛipaksha* in Āśvina) has been mentioned as *śāradika śrāddha* (IV.3.12). One who dined at a *śrāddha* was marked out as *śrāddhī, śrāddhika* (*śrāddhamanena bhuktam*, V.2.85), but Kātyāyana points out that the epithet was applied to that person only for that particular day (II.389). The necessity for this term seems to have arisen from the fact that the *śrāddha-bhojī* was required to perform some purificatory rites on that day. A *śrāddhika* Brahmachārī would be marked out from other students and would get leave from his class for performing *japa*, etc.

Religious tonsure was in vogue (*Madrāt parivāpaṇe*, V.4.67), the tonsurer being called *madraṁkara* or *madrakāra* (III.2.44).

BELIEFS—Belief in divination from bodily signs is mentioned in *sūtra* III.2.52 (*Lakshaṇe jāyā-patyoshṭak* as read with III.2.53). The marks on the body of the husband or the wife were believed to have effect in the respect of each other, *e.g.* *jāyāghnas-tilakālakaḥ*, 'the black mole indicative of wife's death'; *patighnī pāṇirekhā*, 'the line on hand indicative of husband's death'. Probably this topic came under Aṅgavidyā to which references are found in the *Ṛigayanādi gaṇa* (IV.3.73), in the Brahmajāla sutta of the Dīghanikāya and some Jaina *Āgamas*.

Questioning a foreteller about future good luck was called *vipraśna*. The *sūtra* *Rādhīkashyor-yasya vipraśnaḥ* (I.4.39) deals with its linguistic form *e.g.* *Devadattāya īkshate*, 'the astrologer is busy calculating about the future of Devadatt.'

Mantras to captivate the heart of others (*vaśīkaraṇa*) were known as *hṛidya* (*hṛidaya-bandhana ṛishi*, IV.4.96, in which *ṛishi*=*mantra veda*).[1]

The idea that certain days (*puṇyāha*, V.4.90) and nights are auspicious (*puṇyarātra*, V.4.47) was also prevalent. The idea that good actions lead to merit is also referred to (*Saptamyāḥ puṇyam*, VI.2.152), e.g. *veda-puṇyam*, *adhyayana-puṇyam*. Good and bad actions originated from their doers called *puṇyakṛit*, *sukarmakṛit*, or *pāpakṛit* (III.2.89). Transgression of moral conduct was *kshiyā*(=*dharma-vyatikrama*, *āchāra-bheda*), expressed by a special linguistic form, using the exclamatory particle *ha* (VIII.1.60), and pronouncing the verb with *pluta* accent, e.g. स्वयं ह रथेन याति ३ उपाध्यायं पदातिं गमयति 'Fie on the pupil himself riding in a chariot and making the teacher drag on foot !'; स्वयं हौदनं भुंक्ते ३ उपाध्यायं सक्तून् पाययति 'Fie on the pupil himself feasting on rice and suffering the teacher to live on groats !' (VIII.2.104).

1 *Para-hridayaṁ yena baddhyate vaśikriyate sa vaśikaraṇa-mantro hṛidya ity-uchyate, Kāśikā.*

Heinous sins (*mahāpātakas*) like *bhrauṇahatya* (VI.4. 174) and *brahmahatya* (III.2.87) are mentioned (cf. *Manu*, XI.54).

Amongst moral virtues, Pāṇini mentions *prajñā*, *śraddhā*, *tapa*, *tyāga*, *viveka*, *dharma*, *śama*, *dama* (VII.2.27 ; III.2. 142). Persons endowed with high moral character were recipients of social honour as *śamī*, *damī*, *tyāgī*, *vivekī*, *dharmī*, *tapasvī*. Persons who performed meritorious actions relating to life in this world and in the other (*Ishṭa* and *Pūrta*) were honoured as *ishṭi*, *pūrtī* (V.2.88). Religious gifts constituted a pious act (*dharma*) and the use of one's wealth for such objects was called *upayoga*. These benefactions were expressed by such linguistic forms, as *sahasraṁ prakurute*, *sahasram vinayate* (1.3.42; 1.3.36).

DHARMA—The word *dharma* has a two-fold meaning in the *Ashṭādhyāyī* ; firstly *dharma* denoted custom or *āchāra*, as in the *Dharmasūtras* (cf. *Kāśikā* on *sūtra* IV.4.47). That which was in accordance with custom was called *dharmya* (IV.4.92, *dharmādanapetam*)). Pāṇini explains *dharmya* as approved by local usage or custom (VI.2.65 ; cf. *Kāśikā*, *dharmyam ityāchāraniyataṁ deyam uchyate*). Even the charges levied as legal dues, *e.g.* toll-tax, are called *dharmya*, because they were sanctioned by usage. Secondly *dharma* denoted religious or moral duties, as in the expression *dharmaṁ charati*, *dhārmikaḥ* (IV.4.41).

INTELLECTUAL FERMENT—The philosophic thought of ancient India in the period from about the eighth century B. C. was marked by a new awakening and intellectual up-heaval in her history. It led to the foundation of various schools centring round different doctrines as to the ultimate cause and nature of the world and soul. The atmosphere was charged with the keenest intellectual ferment as if a new god of wisdom had become manifest.

JÑA—Patañjali takes the *Jña* to mean Brāhmaṇas as embodiments of *jñāna* or spiritual knowledge and refers to their descendants who carried on the ancient philosophic tradition. The term probably originated in the *Upanishads* (*Jñaḥ kālakālo guṇī sarva-vid yaḥ*, *Śv. Up.*, VI. 2) where it stands for the *Kshetrajña Ātman* or Purusha of the Sāṅkhyas (B. G. Tilak, *Gītā-rahasya*, p. 162). Patañjali also mentions *Jña* as a deity named *Jñā Devatā*, to whom householders were to offer special oblations (*Jñā devatāsya sthālīpākasya Jñaḥ sthālīpākaḥ*, *Bhāshya*, VI. 4. 163; III. 232). Pāṇini mentions *Jñaḥ* (III. 1. 135) as an independent word signifying 'One who knows' It appears as if the monosyllabic *Jña* stood for the ideal of the Sophistic movement beginning in the *Upanishads* and reaching its climax in the time of the Buddha and Mahāvīra. Patañjali refers to celebrated families of these Sophists as *jñānāṁ Brāhmaṇānām apatyam*, descendants of Brāhmaṇas who followed the *Jña* deity and were themselves known as *Jña*. (*Bhāshya*, IV. 1. 1; II. 190).

Pāṇini refers to a philosophical doctrine promulgated by a thinker as *mati* (IV.4.60), corresponding to Buddhist *diṭṭhi*, and the means of knowledge as *matya* (*matasya karaṇam*, IV. 4. 97).

DIFFERENT SCHOOLS OF THOUGHT—Pāṇini classifies the views of various philosophical thinkers under

three categories according to the basic points of view implied in their teachings. They were (1) *Āstika*, (2) *Nāstika* and (3) *Daishṭika* (*Asti nāsti dishṭaṁ matiḥ*, IV.4.60). A list of principal philosophic doctrines or *matis* is preserved in the *Śvet. Up.* I. 2 (also *Charaka*, Sūtrasthāna, ch. 25; *Suśruta*, Śārīrasthāna, 1.11). At the head of the list appears *Kāla* or Time as the cause of the world, known as *Kāla-vāda* (*Mūlapariyāya Jātaka*, II, pp. 260-61). It occurs in the *Mahābhārata* in a more elaborate form *Śāntiparva*, 220. 29-110). According to Pāṇini, the time-denoting words had attained the status of a deity (*devatā*) fit to be worshipped (IV.2.34). Stars and Seasons (IV.2.31, *Ṛitur-devatāsya ṛitavyaṁ*) were similarly deified.

Next is *Svabhāva*, a view which had its counterpart in the Buddhist *Akiriyā-vāda* or doctrine of Non-causation advocated by Purāṇa Kassapa (cf. Śāntiparva, 215-15-16). *Yadṛichchhā* or fortuitous origin was represented by the *Ahetuvādins* who put forward the hypothesis of chance (cf. Śāntiparva, 168.21-22; also called *paryāya-vāda*). The *Niyativāda* corresponds to the Determinist school of Makkhali Gośāla (cf. Śāntiparva, ch. 171). The view of the *Bhūtas* (the four material elements) creating the world was represented in the materialistic doctrine of the *Lokāyata* school. The Annihilationist school of Ajita Keśakambalī (*Uchchhedavādins*) took the same view (*chātum-mahābhūtiko'yaṁ purusho*). *Yoni* or the privileges and incidence of birth as a potent factor directing the world of men and animals was probably represented by the Militarist doctrine which believed in the efficacy of force to rectify human ills. (*Khattavijjā vāda*, *Jāt.*, V. 240; cf. Śāntiparva, ch. 173 for Yonivāda doctrine). Lastly, *Purusha* or *Devamahimā* or Power of the Creator was taken to be the cause of the cosmos, a view termed in the Jātakas as *Issarakāraṇavāda* (*Jāt.*, V. 238). The *Śvet. Up.* advocating *Purushavāda*, refers to other thinkers, like the advocates of *Svabhāva* and *Kāla*, as *parimuhyamāna*, i. e. holding erroneous views.

These distinctions of philosophical thought mentioned in the *Svet. Up.* and the *Mahā Bodhi Jātaka* (*Jāt.* V, p. 228 ff.) are presupposed in Pāṇini. For example, Pāṇini's *Āstika mati* is the Theistic school of *Purusha* or *Issara-kāraṇavāda*. We know that orthodox Brahmanical thought laid great stress on this view which was developed in the earliest Śāṅkhya and attained its climax in the *Vedānta sūtras*. Pāṇini also mentions by name the *Bhikshusūtras* of Pārāśarya (IV. 3.110), which probably denoted the earliest Vedānta treatises written in *sūtra* form. The nucleus of such a text did exist in Pāṇini's time. The *Purusha* or *Adhyātma* school ultimately absorbed other minor doctrines as *Prāṇa*, *Jyoti*, etc., by evolving a synthesis of all such causes in *Purusha*, and in course of time other views on matter and creation aligned themselves with that view, so that *Astikavāda* as expressed in a number of orthodox schools became the most predominant pattern of Indian philosophy.

Pāṇini's *Nāstika mati* represents the views of those who were opposed to the school of *Purusha* and they included amongst them rather earlier philosophers of various denominations, such as the believers in *Svabhāva* (Non-causationists), *Yadṛichchhā* (Fortuitous Originists, *Ahetuvādin*), *Bhūtas* (Materialists) of which Ajita Keśakambalin was the famous exponent (cf. Śāntiparva, 172. 13-18), and *Niyati* (Determinist). Of these *Nāstika* schools Pāṇini has noted the name of Maskarī (Makkhali Gosāla) and his *Dishṭa-mati* or the view of *Niyativāda*, which as we have discussed above was based on the repudiation of action (*kiriyā*) and human endeavour (*viriya*). Patañjali states the pivotal points of their doctrine in explicit words (*Bhāshya*, VI. 1 145; III. 96).[1] The *Mahābhārata* deals at length with the philosophic approach of such thinkers, citing five main points of their belief, *viz.* equanimity or indifference towards creatures

1. मा कृत कर्माणि मा कृत कर्माणि शान्तिर्वः श्रेयसीत्याहातो मस्करी परिव्राजकः ।

(*sarva-sāmya*), immobility or absence of endeavour (*anāyāsa*), straightforward utterance (*satya-vākya*), complete disregard of action leading to cynical peace (*nirveda*) and indifference to seeking knowledge (*avivitsā*, Śāntiparva, 171.2). There Maṅkhali is presented as the sage Maṅki who cheated of his two bulls by a cruel fate dismisses all effort as stupid (*Śuddhaṁ hi daivamevedamato naivāsti paurusham*, Śāntiparva, 171.12). The followers of this school were the *Daishṭikas* or Determinists.

LOKĀYATA—The name of this school which was identical with the theory of elements as the prime cause (*Bhūtavāda* and *Uchchhedavāda*) is not found in any *sūtra*, but occupies the second place in the *Ukthādi-gaṇa* (IV. 2.60). A teacher and a student of this doctrine were both known as *Lokāyatika* There is a strong possibility that the Lokāyata School was known to Pāṇini. Kauṭilya refers to the *Lokāyatas* (*Arth*. p. 6). The antiquity of the school is also suggested by a reference in the *Dighanikāya*, and by the mention of a Brāhmaṇa well-versed in the Lokāyata doctrine asking the Buddha a series of questions (*Saṁyuttanikāya*; *Dict. Pali Proper Names*, II. 787). A *Jātaka* passage refers to Lokāyatika doctrine (*na seve Lokāyatikam*, VI.286). The *Kāmasūtra* has preserved an intensely worldly-wise saying of the Lokayatikas, *Varam sāṁśayikānnishkād asāṁśayikaḥ kārshāpaṇa iti Laukāyatikāḥ* (*Kām.*, I. 2.30). 'A silver Kārshāpaṇa in hand is worth more than a gold Nishka in the offing,' with which may be compared the modern saying 'A bird in hand is worth two in the bush.' There is an interesting reference in Patañjali, *Varṇikā Bhāgurī Lokayatasya*, 'the view-point of Bhāgurī is a specimen of the Lokāyata doctrine (III. 325; VII. 3.45), which shows that Bhāguri was an exponent of the Lokāyata school. (Cf. also *varttikā Bhāgurī Lokāyatasya*, i.e., the way of life preached by Bhāguri is that of Lokāyata, III. 326). The Chārvākas of the Lokāyata school are mentioned in an old grammatical illustration as models of dialectical proficiency (*jñāna*, I. 3. 46) and convincing exposition of their doctrines (*sammānana*,

I.3. 36, *Kāśikā* and *Chāndra*, I.4. 82).[1] Chārvī or Chārvāka was not a proper name but an epithet derived from their brilliant discourses. A Lokāyatika appears as a friend of Duryodhana. Jābāli, a councellor of Daśaratha, was also a follower of Lokāyata. The antiquity of the Lokāyata School being thus indicated, it must be one of those comprised in the *Nāstika mati* of Pāṇini.

Of the terms of Yoga philosophy Pāṇini mentions *yama, niyama, saṁyama* (III. 3. 63), *yogī* (III. 2. 142); of Nyāya, *nigṛihyānuyoga* (VIII. 2. 94) which were the same as *nigraha* (*Nyāya*, I. 2.19; V. 2.1) and *anuyoga* (*ibid* V. 2.23) meaning defeat and censuring of an opponent. *Parimaṇḍala* in *sūtra* VI. 2. 182 seems to be the same technical term as *Vaiśeshika* VII. 1. 20, signifying an atom.

OTHER PHILOSOPHICAL TERMS—*Ātmā*: Pāṇini uses the term *Ātmā* in such expressions as *ātma-prīti, ātmamāna* and *ātmanīna* (*ātmane hitam*, V. 1. 9). *Sva* was the word for *ātman* as Self. *Jīva* in such terms as *jīva-nāśaṁ naśyati* (III. 4. 43) means 'life'. The *Ṛigvedic* word *akshetra-vid* (*Ṛigveda*, X. 32. 7, *akshetravit kshetravidaṁ by-aprāṭ*) occurs as *akshetrajña* in Pāṇini; and a new word, *akshaitrajña*, had come into existence to denote absence of self-knowledge (VII. 3. 30).

Prāṇabhṛit or *prāṇin*, 'one endowed with *prāṇa*' included both men and animals, as distinguished from herbs and trees or the plant kingdom (IV. 3. 135). Pāṇini also distinguishes animate kingdom, *chittavat* (I. 3. 88) from *achitta* or the inanimate world (IV. 2. 47).

Kātyāyana in one place invokes the doctrine of *sarvachetanāvatva* (III. 1. 7; II. 15), implying that in the higher philosophic sense which may also influence grammatical operations the distinction of animate and inanimate does

[1] वदते चार्वी लोकायते। भासमानो दीप्यमानस्तत्र पदार्थान्व्यक्तीकरोति। वदते चार्वी लोकायते। जानाति वदितु मित्यर्थः। काशिका, I. 3. 47.

not exist. Pāṇini, however, seems to have taken a more practical view. Patañjali was probably referring to old definition when he advocated the view of the two-fold nature of *ātmā* (II. 8). He adds that our physical being (*śarīrātmā*) acts and the effect of pleasure and pain is felt by the *antarātmā*, and conversely our mind acts and the effects of *sukha* and *duḥkha* are felt by the physical body. What in Pāṇini's time was called *svānta* (VII. 2. 18) seems to be the same as *antarātmā*, referring to mind as the internal organ of Self or *Sva*. Pāṇini also refers both to the gross body as experiencing pleasure (*kartuḥ śarīrasukham* III. 3. 116), and to its experience by the mind (*sukhavedanā* III. 1. 18). *Sukha* is clearly defined as pleasant experience (*ānulomya*, V. 4. 63) and *duḥkha* as unpleasant (*prātilomya*, V. 4. 64), same as *anukūla-vedanīya* and *pratikūla-vedanīya* of the *Nyāya* school. The definition *Sva-tantraḥ Kartā* (I. 4. 54), held good both in grammar and as reflecting philosophical doctrine.

INDRA AND INDRIYA—Indra, the famous Vedic deity is referred to in the *Ashṭādhyāyī* by his older synonyms as *Marutvat* (IV. 2. 32), *Maghavan* (IV. 4. 128), *Vritrahan* (III. 2. 87). Pāṇini also records the synonym *Mahendra* (IV, 2. 29), a word used only thrice in the *Yajurveda* in a late prose formula (VII. 39-40 ; XXVI. 10). The conception of Mahendra seems to have arisen out of that of the Chief Vital Air (*Madhya Prāṇa*) enkindling others through the five sense-organs (*Śatapatha*, VI. 1. 1. 2), symbolised as a group of Five-Indras (cf. Udyogaparva, 33.103, *Pāṇḍoḥ putrāḥ pañcha Pañchendra-kalpāḥ*). But the reference to the new metaphysical meaning of Indra as Self is truly remarkable (V. 2 93). This new meaning had been evolved in the religio-philosophical cogitations of the *Brāhmaṇas* where new *adhyātma* interpretations of the hymns were being discussed. Pāṇini derives *Indriya*, 'sense-organs', from the word *Indra* meaning 'Self'. He sums up the various derivations in five clauses of equal rank, and also provides for other possible views by adding the phrase *iti vā* in the

sūtra,[1] We learn from Yāska that the derivation of Indra was a major point of discussion in which eminent teachers like Āgrāyaṇa and Aupmanyava had participated. The fifteen different etymologies of Indra compiled by Yāska (*Nirukta*, X.8 ; cf. H. Sköld, *The Nirukta*, p. 210) were taken from different *Brāhmāṇa* and *Araṇyaka* passages, some of which can still be traced (cf. my article 'Studies in the Grammatical Speculations of Pāṇini', *J.U.P.H.S.*, April, 1936, pp. 95-104). Pāṇini also refers to them as shown below.

(i) *Indra-liṅgam* ; the sense-organs are the outer sign of Indra. According to the *Kāśikā* Indra here is *Ātmā* and this meaning goes back to the *Maitr. Up.*, VI.8 So long as the organs function, Indra resides within the body. Indra is the life-giver of the Indriyas : 'Verily, in the beginning there was the *Asat* named the Ṛishis who were doubtless the Vital Airs, *Prāṇāḥ*. The invisible *Prāṇa* incarnated in the body ; he is Indra, propelling by his power the senses which thereby stand as proof of his existence' (*Satapatha*, VI.1.1.2). Thus the functioning sense-organs are the visible symbols of life within (*Indra-liṅgam*).

(2) *Indra-drishṭam* ; the senses were 'seen' or experienced by Indra. Yāska ascribes this opinion to Aupamanyava (*Idam darśanād iti Aupamanyavaḥ*), a view also expressed in the *Aitareya Araṇyaka* (*Idam adarśaṁ tasmād Indro nāma*, III.14). This Aupamanyava was a grammarian mentioned by Yāska as holding a different view about the onomatopoeic derivation of names (III.18). It is likely that Pāṇini took this etymology from Aupamanyava. *Idam* in the above two citations stands for the non-self, or senses.

(3) *Indra-srishṭam* ; the organs were 'created or produced by Indra.' Yāska attributes this view to the teacher Āgrāyaṇa (*Idaṁ karaṇād iti Agrāyaṇaḥ*, X.8.), and a similar

[1] इन्द्रियम् इन्द्रलिंगम् इन्द्रदृष्टम् इन्द्रसृष्टम् इन्द्रजुष्टम् इन्द्रदत्तम् इति वा (५।२।९३)

suggestion is made in the *Aittareya Up.* (II.1, *Tā etā devatāḥ srishṭāḥ*).

(4) ***Indra-jushṭam*** ; 'loved by Indra', who feels delighted in the company of the senses. The ***indriyas*** are the receptacles of Soma which is Indra's delightful drink. The *Aitareya Br.* (II.26) describes the sense-organs as the Soma-cups (*Somagraha*), an since Indra loves his sweet mead he is never so happy as when he is in the company of the senses (f. *Indra* as *indau ramate*, *Nir.*). The epithet *Indra-jushṭa* is thus appropriate in view of the intimate relationship between the Self and the sense-organs.

(5) *Indra-dattam* ; 'assigned to their respective objects enjoyment by India' (*ātmanā vishyebhyo dattaṁ yathāyathaṁ grahaṇāya, Kāśikā*). The same view is found in the *Aitareya Up.*, describing the primeval Self as assigning to the senses their respective functions in the human person (*purushe*) : 'He said to them : Enter into your respective abodes.' Pāṇini's *Indra-dattam* is in relation to this old legend.

(6) ***Iti Vā***. This part of the *sūtra* provides for an unknown quantity and puts the grammarian's seal of approval on such other derivations as were taught by ancient teachers but not included in the above list of five.[1] The *Kāśikā* brings out the spirit of the words by stating that the word ***iti*** points to the *manner* of derivation which thus made room for other similar etymologies also, all of them being of equal force. For Pāṇini to be so liberal with words is rather exceptional and points to the synthetic spirit in which he had conceived his work.

PARALOKA (*OTHER WORLD*)—A belief in the other world and in the continuity of Self in after life was an article of faith with the people who so conducted themselves in this life as to attain happiness in the next world (*Sidhyaterapāralaukike* VI.1.49). The *sutra* *Lipsyamāna-siddhau cha*

1. For seventeen similar crude derivations of *Indra*, see Fatah Singh, *Vedic Etymology* (Kota, 1952), p. 94.

(III.3.7) refers to the attainment of supreme objective (*siddhi*) which, according to the commentators, was *Svarga*. In the Vedas *Svarga* is called *Nāka*. The word *nāka* is derived in the *Brāhmaṇas* (*ŚB*, VIII.4.1.24) from *na*, 'not', and *aka*, 'pain' because those who go there are free from sorrow (*Vedic Index*, I.439). Yāska and with him Pāṇini splitting the word into *na* and *aka* (VI.3.75) retain its association with the final abode of happiness, as heaven was believed to be in the earlier literature.

Pāṇini also mentions *Niśśreyasa* (V.4.77) which in the *Upanishads* denoted supreme bliss or beatitude into which the soul entered. On the contrary, the word *Nirvāṇa* was also known to the *Ashṭādhyāyī* (VIII.2.50). It denoted something negative, *i.e.* extinction, as of a lamp or flame of fire. The term was possibly associated with Buddhism, as indicated in *Kāśikā's* example *nirvāṇo bhikshuḥ*.

CHAPTER VII

POLITY AND ADMINISTRATION

1. MONARCHY

TITLES AND TERMS—Pāṇini refers to a monarchical state as *Rājya* (VI.2.130), derived from *rājan* or king, as distinguished from *Saṅgha* or Republic. In a well-known passage of the *Aitareya Brāhmaṇa*, *Rājya* occurs as one of the several classes of sovereignty to which rulers were consecrated at the time of their coronation (VIII.15). The term *Iśvara* in the *Ashṭādhyāyī* denotes a *rājā* with reference to his supreme power, as in *sūtras* I.4.97, *and* II.3.9. (*Yasya cheśvaravachanaṁ tatra saptamī*), which relate to grammatical formations for naming the king of a country. In early literature *Iśvara* meant an earthly king and not 'God'. Patañjali cites an old example, *adhi Brahmadatte Pañchālāḥ*, i.e. 'the Pañchālas are under the kingship of Brahmadatta.' In the *Bhāshya*, *rājā* of *sūtra* II.4.23 is taken as a synonym of *ina* and *iśvara* (I.177). The *Nighaṇṭu* makes *rāshṭrī*, *arya*, *niyutvān* and *ina* as names of *iśvara*. Of these *arya* is referred to by Pāṇini as a synonym of *svāmī* (III.1.103). The latter word is derived to denote one who possesses *aiśvarya* or sovereignty (*Svāminn-aiśvarye*, V.2.126). Patañjali points out that the idea of *aiśvarya* is inherent in the word itself and is not the result of any suffix (*nāyaṁ pratyayārthaḥ*, II.400). It appears that *svāmī* implying *aiśvarya* primarily denoted a king.

Another title of *rājā* in Pāṇini is *bhūpati* (VI.2.12), and here also *aiśvarya* is an attribute of his overlordship (*patyāu-aiśvarye*, VI.2.18). *Bhūpati*, therefore means 'lord of the earth.' The word *adhipati* mentioned along with *svāmī* and *iśvara* (II.3.39) occurs in the coronation formula of the *Aitareya Br.* in a form of sovereignty called *ādhipatya*. Jaya-

swal understood it as overlordship over neighbouring states, who paid tribute to the *Adhipati* (cf. Ādi, 103.1; 105.11-15, 21) The words *Samrāj* and *Mahārāja* were old kingly titles, of which the former is mentioned in *sūtra* VIII. 3.25, and the latter although mentioned twice (IV. 2.35 ; IV. 3.97) does not refer to a king, but to one of the *Chatur-Mahārājika* gods.

The king's relationship to territory (*bhūmi* and *prithivī*) is indicated in his titles *sārvabhauma* and *pārthiva* based on his sovereignty or *aiśvarya* (*Tasyeśvaraḥ sarvabhūmi-prithivībhyām aṇañau*, V. 1.41-42). One's own kingdom was called *prithivī*; but *sarvabhūmi* denoted the whole country and was the same as *mahāprithivī* of the Mahāgovinda sutta of the *Dīgha-Nikāya*. The Sārvabhauma after conquest of the earth and annexation became entitled to perform an *aśvamedha* (*Apas. Śr*, XXX. 1.1 ; cf. Bharata *Sārvabhauma*, Ādi, 69. 45-47). The title also occurs in the list of the *Ait. Br.*

COUNCIL OF MINISTERS (*PARISHAD*)—Pāṇini is acquainted with the *parishad* as a recognized institution of his time of which he mentions three kinds, (1) social (IV. 4.44), (2) literary (IV. 3.123), and (3) political (V. 2. 112). A member of a *parishad* was called *pārishada* and *pārishadya* (IV. 4.101). He must be duly qualified or eligible for it (*sādhu*). One who joined the meeting of a *parishad* was called *pārishadya* (*parishadaṁ samavaiti*, IV. 4.44). This *parishad* or social congregation was like the *samāja*. *Parishad* as a political institution is mentioned in *sūtra* V. 2.112 (*Rājaḥ-krishy-āsuti-parishado valach*) prescribing the form *parishadvala*, which the commentators apply to a king with his Council of Ministers (*parishadvalo rājā*). The Buddhist literature, Kauṭilya and Aśoka inscriptions contain references to this institution. In the *Mahāsīlava Jātaka*, the king's *Parishad* consisting of ministers (*amachchas*) is spoken of as perfectly disciplined to act harmoniously with the will of the king (*evaṁ suvinītā kir'assa parisā*, *Jāt.* I. 246). Aśoka in Rock Edicts III and VI

mentions the *parishad* which was summoned to consider urgent matters (*achāyike*). An authoritative account of the constitution of the *Mantri-Parishad* is given in Kauṭilya who describes it as a well-established institution invested with definite constitutional powers in relation to the king and the business of the State (*Arth.* I. 11., p. 26-29)

The particularly happy expression *Parishadvalo rājā*, 'King-in-Council,' current in the political terminology of Pāṇini's time, shows the importance which was attached to the *Parishad* with reference to the constitutional position of the king in relation to his ministers.

RĀJAKṚITVĀ (III. 2.95)—This was another important term of political vocabulary mentioned by Pāṇini in *sūtra Rājani yudhi kṛiñah* (III. 2.95), signifying the institution of *rājānaṁ kṛitavān* 'one who is a king-maker.' In the Vedic period the *Ratnins* or High State Functionaries are spoken of as *rājakrits*, 'king-makers' (*Atharva*, III. 5. 6-7). This political epithet continued up to the Buddhist period : 'The Pali canon employs 'king-maker' as a synonym for ministers (*rājakattāro, Dighanikāya*, Mahāgovinda Suttanta). The *Rāmāyaṇa* in describing the ministers who put their resolution before Bharata, calls them 'king-makers' (Ayodhyākāṇḍa, 79.1, *sametya rājakartāro Bharataṁ vākyam-abruvan* ; *Comm. rājakartāraḥ = mantriṇaḥ*, *Hindu Polity*, II. 116).

CHIEF MINISTER—A fact of great constitutional significance with respect to the working of the Hindu monarchy in that early period is mentioned by Pāṇini in the following *sūtra* :

Miśraṁ chānupasargam asaṁdhau (VI. 2.154).

'The word *miśra* has an acute accent on the final vowel after an instrumental case, when it is not joined with any preposition, and does not mean an agreement with oath (*saṁdhi*).'

On this *Kāśikā* says: 'Why do we say, not denoting an agreement with oath? Observe *Brāhmaṇa-miśro rājā, Brāhmaṇaiḥ saha saṁhita aikārthyamāpannaḥ. Saṁdhiriti hi paṇabandhen-aikārthyam uchyate.*' As Vasu renders the meaning of the *Kāśkā*: 'The word *Saṁdhi* here means a contract formed by reciprocal promises; 'If you do this thing for me, I will do this for you.' Others say, it means close proximity, without losing identity and thus differs from *miśra* in which two things are compounded into one. Therefore, though the King and the Brāhmaṇa may be in close proximity as regards space (*deśa-pratyāsattau*), they both retain their individuality; hence the counter-example *Brāhmaṇi-miśro rājā*'. Thus the word *miśra* points to joint authority between the king and his ministers who shared it in common according to constitutional usage.

This technical meaning of *saṁdhi* is recorded in the *Arthaśāstra*, which defines it as *paṇabandhaḥ sandhiḥ*, 'an agreement with oath is *saṁdhi*' (*Artha*. VII 1, p. 253, Trans. p. 293). The agreement of a king with a Brāhmaṇa in accordance with the oath of loyalty to the constitution was a feature of Hindu polity. The king, according to *Manu* (VII. 58), must consult his Chief Minister, who should be a learned Brāhmaṇa, about secret counsels dealing with the six limbs of state-craft (*shāḍguṇya, Hindu Polity*, 11.119). According to Kauṭilya also the king's Chief Minister should be a Brāhmaṇa: 'The king (*Kshatra*) who is supported by a Brāhmaṇa, and who has the advantage of the advice of other *mantrins*, and who is governed by the *Śāstras*, conquers territories unacquired before (*Artha*. I.8, p.16). It is virtually a restatement of the Vedic dictum *Brahmaṇā kshatreṇa cha śrīḥ parigrihītā bhavati*, also embodied in *Manu* (IX.322, also VII. 58-59).

In actual practice also, the alliance of a Kshatriya king with a Brāhmaṇa prime-minister or chancellor was the prevailing political arrangement from about the Śaiśunāga period to the reign of Aśoka. The names of some of the great ministers were as well-known as those of the rulers;

for example, we find mention of Varshakāra, chief minister of Ajātaśatru, Dīrgha Chārayāṇa of king Viḍūḍabha of Kosala, Yaugandharāyaṇa of Udayana, Chāṇakya of Chandragupta and also Bindusāra, Rādhagupta of Aśoka, Piśuna of Pālaka of Avanti (*Artha. Comm.*), Bharata Rohaka of Chaṇḍa Pradyota, Āchārya Ghoṭamukha of Aṁśumān of Avanti (Bhagvaddatta, *History of India*, p. 258), Kaṇiṅka Bhārdvāja of Parantapa, king of Kosala (*Arth. Comm.*), and Bābhravya of king Brahmadatta of Pañchāla (*Matsya Purāṇa*, XXI.30). As Jayaswal has observed, the system of noting historically the Prime Ministers' name occurs as a marked feature in Buddhist records (*Imperial History of India*, p. 17). All these ministers occupied positions of the highest responsibility in the administration and were bound by costitutional ties to the king whose policies they directed so completely.

Pāṇini mentions another political term, *Ārya-Brāhmaṇa* (*Āryo Brāhmaṇa-kumārayoḥ*, VI.2.58), 'Honourable Brāhmaṇa', used with reference to the Chief Minister. In the next *sūtra*, *Rājā cha* (VI.2.59), Pāṇini refers to *Rāja-Brāhmaṇa*, which as a *Karmadharaya* compound, would apply to a king of the Brāhmaṇa caste, but as a counter-example would refer to the Brāhmaṇa of the King. The King's Brāhmaṇa was the same as the king's minister mentioned in *Brāhmaṇa-miśro rājā*.

ASHAḌAKSHĪṆA (V.4.7, *SECRET COUNSEL*)—It literally means 'that which is not seen by six eyes'. The *Kāśikā* explains it to mean deliberation between two persons only, and not more (*ashaḍakshīṇo mantraḥ, yo dvābhyāmeva kriyate, na bahubhiḥ*). In the political evolution of the *Mantri-Parishad* and with the emergence of the office of the Prime Minister, there was a tendency to form a smaller body inside the *Parishad* for more effective and responsible deliberation. As to the number of ministers constituting this Inner Body, Kauṭilya supplies valuable information recording the views of earlier political thinkers like Piśuna, Pārāśara, Viśālāksha and Bhāradvāja.

Kauṭilya states that the number of ministers should be three or four (*Artha.* I.15, p. 28). In this matter the most forceful view was that of Kaṇiṅka Bhāradvāja, the severe theorist who advocated the system of one-minister cabinet (*Guhyam eko mantrayeteti Bhārdvājaḥ. Arth.* I.15, p. 27). This was the *ashaḍakshīṇa mantra* referred to by Pāṇini, i.e. the secret counsel of the king and the chief minister only, in which 'six eyes' had not participated. It signified the same thing as *shat-karṇo bhidyate mantraḥ* of later literature. *Bhārdvāja* held that a plethora of councillors betrayed the secret (*mantri paramparā mantraṁ bhinatti, Artha.* I.15; cited in the *Kāśikā* on V.2.10). This view was disputed by Viśālāksha who, perhaps true to the veiled suggestion of his name, was in favour of admitting more ministers to the secret sessions of the council.

The *ashaḍakshīṇa* business must have related to urgent and important matters of state. Pāṇini refers to *ātyayika* (*Vinayādi gaṇa*, V.4.34), urgent business, to which Aśoka also refers in R. E. VI, and so also Kauṭilya: 'Summoning the ministers and the council, the king shall speak to them on urgent matters (*ātyayike kārye mantriṇo mantri-parishadaṁ chāhūya brūyāt, Arth.*, I.15). Here *mantriṇah* refers to the Inner Cabinet, and *Mantri Parishad* to the fuller Council of Ministers. The *ashaḍakshīṇa* deliberations belonged to the former.

Similarly, in the *Gaṇa-pāṭha* IV.3.118 an act or resolution of the *Parishad* is called *pārishatka*.

RĀJA-SABHĀ (II. 4. 23)—As distinguished from the *Parishad*, the General Assembly was represented by the *Rāja-sabhā*. Tradition makes Bindusāra having a Council of five hundred members. As example of *Rāja-sabhā*, Patañjali cites *Chandragupta-sabhā* and *Pushyamitra-sabhā* (*Bhāshya*, I.177).

The implication of Pāṇini's next *sūtra*, *aśālā cha* ('that which is not a building,' II.4.24) interpreted with the rule under discussion is that the term *Rāja-sabhā*, and also its

specific names, such as *Chandragupta sabhā*, had a two-fold significance, firsty the body of members and secondly the building where the assembly held its session. Even in the Vedic literature we find that *Sabhā* was the name of an 'assembly' as well as of the 'hall' where the assembly was held (*Vedic Index*, II.426). The example *Chandragupta-sabhā* although certainly post-Pāṇinian denoted both the assembly or Great Synod of that emperor and the magnificent pillared hall which has been discovered in the excavations at Pāṭaliputra. The pillared assembly hall was a Vedic model as the word *Sabhā sthāṇu* (*Vedic Index*, II.426) shows. Chandragupta built his *sabhā* with stone pillars. In this connection we may refer to the expression *Kāshṭha-sabhā* indicative of wooden architecture of earlier times. *Chandra* and *Kāśikā* cite it as a counter-example. It is known that the earliest Indian architecture in stone was preceded by that in wood, from which the technical patterns and ornamentation of early Indian art were certainly derived. Therefore, an assembly hall made of wood (*kāshṭha-sabhā*) was a fact of the pre-Maurya period.

According to Ludwig the Vedic *Sabhā* was an assembly not of all the people but of the Brāhmaṇas and Maghavans or the rich aristocrats (*Vedic Index*, II.426). The word *sabheya*, 'worthy of the assembly' is taken by Keith to support this view. Vedic *sabheya* (IV.4.106) corresponds to *sabhya* of classical Sanskrit (*sabhāyāṃ sādhuḥ sabhyaḥ*, IV.4.105), which must have been applied only to those who were privileged to become members of the *Sabhā*.

Pāṇini mentions the office and duties of *Purohita* as *Paurohitya* (V.1.128). The *Purohitādi-gaṇa* includes *Rājā* and also *Senāpati* implied in the phrase *patyanta* of the *sūtra*. According to Kauṭilya, next in rank to the Chief Minister was the *Purohita*; after him came the *Senāpati*; and then the *Yuvarāja* (*Arth*. V.3, p. 247). A *Purohita* was to be learned both in the Veda and in politics (*Daṇḍanīti*).

MAHISHI (*QUEEN*, IV.4.48)—The queen had on official position in Hindu polity. She was crowned jointly with

the king. Pāṇini mentions the chief queen as *Mahishī* (*Aṇ mahishyādibhyaḥ*, IV.4.48) and the special term *Māhisha* must have referred to her allowances in the Civil List, which was a charge fixed by convention (*dharmyam, āchāra-yuktam*). In the same *gaṇa* after *Mahishī* comes *Prajāvatī*, mother of princes, and her salary is called *prājāvata*. Kauṭilya also mentions both the Chief Queen and the mother of princes (*Rājamahishī, kumāra-mātṛi*) in the Civil List, the former receiving 48,000 and the latter 12,000 silver *paṇas* per year (*Artha*, V. 3, p. 247). The Chief Queen (*Ajja-mahesi*) is frequently mentioned in the *Jātakas* (V. 22; VI. 31) and distinguished from *pajāpatī* (I. 398; Sanskrit *prajāvatī*), a title applied to all other queens except the Chief Queen.

Pāṇini mentions the phrase *asūryam-paśyā* applied to women who lived in the seclusion of the palace where they could not see even the sun. The commentators interpret the term as *rājadārāḥ* or the royal harem, which corresponds to Aśoka's *orodhana* (Skt. *avarodhana*).

CROWN PRINCE—The general word for 'prince' in the *Ashṭādhyāyī* is *rāja-putra* (IV. 2.39) and *rāja kumāra* (VI. 2. 59). The word *rāja-kumāra* has two meanings (1) a boy king and (2) prince, the latter being a counter-example to the *sūtra Rājā cha* (*rājñaḥ kumāraḥ*) Of all his sons the king selected the son of the Chief Queen, as the crown-prince or *Yuvarāja*. In this connection Pāṇini makes an important reference to *Ārya-kumāra*, i. e. Chief Prince, who was invested with the title *Ārya* (*āryaśchāsau kumāraścha*) (*Āryo Brāhmaṇa-kumārayoḥ*, VI. 2.58). *Ārya* appears to be a political title both in *Ārya-Brāhmaṇa* and *Ārya-kumāra*. Samudragupta was addressed as *Ārya* by his father at the time of his selection to the throne (*āryo hītyupaguhya*, Allahabad Pillar Inscription). In the *Jātakas* the crown prince is called *uparājā*. In one instance, of the two brothers one is made *uparājā* and the younger one *senāpati*; on the death of the king the *uparājā* becomes *rājā*, and the *senāpati* becomes *uparājā* (*Jāt*. VI. 30).

RĀJA-KUMĀRA—This expression especially taught in *sūtra* VI. 2. 59, denotes a boy-king, *i.e.* a prince who was required under special circumstances to succeed to the throne as a minor. It should be noted that a boy-king, although permitted to succeed in his minority, was formally consecrated as king only when he attained the age of majority.

PERSONAL AND PALACE STAFF—The King, in keeping with his royal dignity, maintained a full contingent of personal and household staff which consisted of body-guards, the chamberlain, ecclesiastical staff, toilet attendants, and inferior servants who were in charge of royal paraphernalia. The *Ashṭādhyāyī* acquaints us with each one of these classes of officers.

PERSONAL BODY-GUARDS—The king's A.D.C. or staff for the protection of his person (*ātma rakshitaka, Arth.* II 21, p. 42) is mentioned by Pāṇini as *Rāja-pratyenas* (*Shashṭhī pratyenasi,* VI. 2.60). *Pratyenas* is mentioned along with *Ugra* and *Sūta grāmaṇī* in the *Bṛihadāraṇyaka Up.* (IV. 3. 43-44), denoting there a police-officer. 'The sense must be that of the humbler 'servants' of the king' (*Vedic Index,* II. 34). It was a responsible task for which Kauṭilya directs special precautions to be taken. Pāṇini informs us about the status of dignitaries appointed as king's body-guard. In *sūtra* VI. 2.27 (*Adiḥ pratyenasi*) he explains the formation *kumāra-pratyenāḥ, i. e.* a prince serving as an A.D.C. It must have been a position of honour to which princes of the royal blood were usually appointed. An assemblage of princes is mentioned as *rājaputraka* (IV. 2.39).

CHAMBERLAIN—The offiicial is called *Dauvārika* (VIII. 3. 4, *Dvārādīnāṃ cha; dvāre niyuktaḥ*). His importance is indicated by his pay fixed at 24,000 silver *kārshāpaṇas* in the *Arthaśāstra* (*dauvārika......sannidhātāraḥ chaturviṁśati-sāhasrāḥ,* V. 3).

OFFICERS TO GREET THE KING—These were: (1) *Svāgatika,* the officer who pronounced welcome to the king

at his appearance (*Svāgatādīnāṁ cha*, VII. 3. 7; *svāgatam ityāha*); (2) *Sauvastika* (*svastītyāha*, *Dvārādi gaṇa*, the officer who recites *svasti-vāchana* to the king). To this Kātyāyana adds three more: (3) *Saukha-śāyanika*, the person who enquires of the king if he had slept well (*sukhaśayanaṁ prichchhati*). This is the same as Pāṇini's *Saukha-śāyyika* (*sukha-śayyayā jīvati*, *Vetanādi gaṇa*, IV. 4.12). In the *Lohakumbhī Jātaka* we find mention of Brāhmaṇas coming at dawn to enquire about the health of the king of Kosala (*aruṇagamanavelayā Brāhmaṇā āgantvā rājānaṁ sukhasayitaṁ puchchhiṁsu*, III. 43). (4) *Saukha-rātrika*, the officer who asks whether the king spent a comfortable night. (5) *Sausnātika*, the officer who greets the king after his toilet (*susnātaṁ prichchhati*). The *sausnātika* in relation to the king is referred to by Kālidāsa (*Raghuvaṁśa*, VI. 61).

TOILET ATTENDANT—Both male and female attendants are mentioned in connection with king's toilet, *e. g. parisheohaka*, *snāpaka*, *utsādaka*, *udvartaka* (*Yājakādi gaṇa*, II. 2.9; VI. 2.151); *pralepikā*, *vilepikā*, *anulepikā* (*Mahishyādi gaṇa*, IV. 4.48). The allowances (*dharmya*) paid to the latter were called after them *prālepika*, *vailepika* and *ānulepika* respectively. Patañjali makes a special reference to *vailepika* as a customary payment to a female attendant who applied unguents (VI. 3.37; III. 156). The expression *snātānulipta* shows that *anulepa* denoted unguents applied after bath (*Arth.*, IV. 6; p. 217). The *Kalpasūtra* refers to these terms in describing the king's toilet (*Kalpasūtra*, S.B.E., pp. 242-3).

RAJA-YUDHVĀ—That text also states that the king entered the hall for gymnastic exercises and there engaged in wrestling (*mallayuddha*). Pāṇini refers to *rāja-yudhvā* (III. 2.95), a term applied to the wrestler who gives exercise to the king (*rājānaṁ yodhitavān iti rāja-yudhvā*). This list of attendants incidentally has reference to the king's daily routine, as laid down in the *Artha-śāstra*.

GOVERNMENT—The king was at the head of government in a monarchical or *Ekarāja* State. He was assisted in his work by a ministerial council or *Parishad*, and also possessed a larger body called *Sabhā* as we have already seen. The number of ministers comprising the *Parishad* is not known from Pāṇini, but, Kauṭilya states, it must have depended on the needs of administration. The Chief Minister (*Ārya-Brāhmaṇa*), the Chief priest (*Purohita*), the Crown-Prince (*Ārya-kumāra*, same as *Ārya-putra* of the Minor Rock Edict at Brahmagiri), and the Commander of the Army (*Senāpati*) have received mention in the *Ashṭādhyāyī*, being important officers represented in the language through special terms.

ADMINISTRATIVE OFFICERS—Pāṇini mentions government servants of several grades who appear to have been organized into a Civil Service. The term *āyukta* was a general term for government servants (II. 3.40) engaged in routine work (*āsevā*). Kauṭilya refers to *āyukta purushas* of a king (*Arth*. I. 15, p. 27), and so do the *Jātakas* (*yuttakapurisā rāño*, *Jāt*., V. 14). When they were assigned special jobs they were called *niyukta* after their assignments (*Tatra niyuktaḥ*, IV. 4.69). As examples of *niyukta* officers, the *Kāśikā* mentions *Koshṭhāgārika*, store-keeper employed in the royal store-houses (*Agārāntāṭ-than*, IV. 4.70) who according to Kauṭilya was of the grade of a superintendent. Other special officers whose names ended in *agāra* were *Devāgārika* for temples, and *Bhāṇḍāgārika* for stores (*Kāśikā* on IV. 4.70). These must have been officers known from olden times (cf. also Kauṭilya). Personal attendants, such as *chhatradhāra*, bearer of the royal umbrella, *tūṇīdhāra*, bearer of the quiver of arrows, and *bhṛiṅgāradhāra*, bearer of the king's spittoon, were of the *niyukta* class (*Aṇi niyukte*, VI. 2.75).

The most important officers constituting the steel-frame of administration were the *Adhyakshas* mentioned in *sūtra* VI.2.67 (*Vibhashādhyakshe*). They were Heads of Government Departments. In Kauṭilya's administrative system, the *Adhyakshas* play an important part as presiding over the different departments of administration. The *Artha-śāstra* enumerates about twenty-five *Adhyakshas*. As examples of *Adhyakshas*, the *Kāśikā* cites *Aśvādhyaksha* and *Gavādhyaksha* (IV.4.69), mentioned also by *Kauṭilya*. The *Kāśikā* refers to other *niyukta* officers, such as *Ākarika*, those for mines; *Śaulkśālika* for customs, *Āpaṇika* for market-places, *Gaulmika* for forests, who were of the *Adhyaksha* cadre according to Kauṭilya.

YUKTA—The *Yuktas* were a class of subordinate officers of whom Pāṇini mentions *Yuktārohī* (VI.2.81), which is the same as *yuktārohaka* of *Kauṭilya* (*Artha*. V. 3. p. 248). His remuneration was fixed not as regular pay, but as an honorarium ((*pūjā-vetana*) of 5 0 to 1000 *kārshāpaṇas* per year. His duties are not exactly defined but he may have been entrusted with the special task of breaking ungovernable elephants and horses (*avidheya-hastyaśvārohaṇa-samarthaḥ*, Gaṇapati Śāstri). The *Sāmañña-phala-sutta* mentions *hatthā-roha* and *assāroha* amongst skilled workmen of the times. Under the *Adhyakshas* was placed the entire civil service consisting of subordinate officers or *Yuktas*. They were a regular feature of the Mauryan administration referred to both in the Asokan Edicts (R. E. III) and the *Arthaśāstra* (II. 5, *sarvādhikaraṇeshu yuktopayukta-tatpurushāṇām*). Pāṇini's mention of both the *Adhyakshas* and *Yuktas* points to the fact that these officers had become parts of the administrative system a few centuries before Kauṭilya.

Pāṇini mentions some other subordinate officers, *e. g.* *gopāla*, cowherds; *tantipāla*, goatherds; and *yavapāla*, guards of barley fields (*Go-tanti-yovaṁ pāle*, VI.2.78). *Tantipāla* is mentioned also in the Virāṭaparva (XI.8) having other *pāla* officers working under him. The *Pālas* of Pāṇini (*Pāle*, VI.2.78) form a class of officers, of whom Kauṭilya mentions

nadīpāla, dravyapāla, vanapāla, nāgavanapāla, antapāla, durgapāla, and the *Mahābhārata* refers to *sabhāpāla* (Ādi., 222.16), in addition to *gopāla* and *tantipāla,* known also to Pāṇini. The *Sasa* Jātaka refers to *khettapāla* and *Khettagopaka* (*Jāt.,* III.54) and the *Sīhachamma Jātaka* to *khettarakkhakā,* those watching barley and rice fields (II.110), which corresponds to Pāṇini's *yavapāla.* Later we get *vihārapāla, ārāmapāla* and *dhammapāla* in the Buddhist tradition.

As specific instances of *Yukta* officers the *Kāśikā* mentions *go-saṅkhya* and *aśva saṅkhya* who acted as census officers of royal cattle and horses and whose business it was to register their number, age and branding marks. Details of such a census of royal cattle held in the kingdom of Duryodhana occur in the Ghoshayātrāparva (Vanaparva, chs. 239-40).

Kshetrakara, an officer for surveying fields, and *lipikara,* a scribe (III.2.21, with the variant form *libikara,* were both subordinate officials known in the Mauryan administration also.

DŪTA—The *Dūta* or emissary was named after the name of the country to which he was deputed (*Tad-gachchhati pathidutayoḥ,* IV.3.85). The term *pratishkasha* also denoted a messenger (VI.1.152). Couriers were called *jaṅghākara* (III.2.21), corresponding to *jaṅghārika* of Kauṭilya (*Arth.* II.1, p. 46). Pāṇini refers to a special term *yaujanika,* to denote a courier travelling one *yojana* (*yajanaṁ gachchhati,* V.1.74), to which Kātyāyana adds *yaujanaśatika i.e.* a courier who is deputed on an errand of a hundred *yojanas.* This is in complete agreement with Kauṭilya who refers to the speed of Mauryan courier service in terms of the distances they travelled from one *yojana* to a hundred *yojanas.* The remuneration prescribed was ten *paṇas* for each *yojana* travelled up to 10 *yojanas,* and thereafter twice as much in a rising scale from eleven to one hundred *yojanas* (*Arth.,* V.3, p. 248). A similar courier service was maintained in Achaemenian Iran, under king Xerxes and other emperors almost contemporaneous with Pāṇini's time.

The message delivered orally by a *dūta* was called *vāchika* (*Vācho vyāhṛitārthāyām*, V.4.35), and the action taken on it *kārmaṇa* (*Tad-yuktāt karmaṇo'ṇ*, V.4.36; *vāchikaṁ śrutvā tathaiva yat-karma kriyate*, *Kāśikā*). Pāṇini refers to an officer called *kartṛi-kara* (III.2.21), an obscure word unrecorded in literature, but in Pali *kartā* denoted the king's agent or messenger (Stede, Pali., Dict., *Jāt.*, VI.259, etc.), whence the person who selected or appointed him must have been so called.

AKRANDA—Pāṇini mentions special couriers called *ākrandika* (IV.4.38), deputed on an *ākranda* (*ākrandaṁ dhāvati*). The *Kāśikā* takes it as a place of moaning or suffering (*ārtāyana*) which does not make sense. Kauṭilya defines *ākranda* as a friendly king in the rear of the *vijigīshu* (*Arth.* II.62, p. 31.) Kullūka on *Manu* VII.207 explains the word clearly saying that a hostile king in the rear was called *pārshṇigrāha* and a friendly king in the rear who would act as a countercheck to the enemy at the back was known as *ākranda* (Śānti, 61 19). Thus a messenger deputed to an *ākranda* king was called *ākrandika*.

One who considered himself strong enough to proceed against an enemy, because of his secure position in the political *Maṇḍala*, was called *abhyamitrīya* or *abhyamitrīṇa* (*abhyamitraṁ alaṅgāmī*, V.2.17).

IDEALS OF ADMINISTRATION—The ideal of the State was good government (*saurājya*). Good government means state under a king (*rājā*), after whom it was called *rājanvān* (*Rājanvān saurājye*, VIII.2.14)· This points to the theory advocated both in Kauṭilya and in the *Jātakas*, according to which the institution of kingship emerged out of the people's desire to escape from the miseries attendant on 'no government' (the state of *mātsya-nyāya*). The people decided to elect a king, and thus making themselves *rājanvān* they realised the condition of peaceful society. The evils of kingless society *arājaka rāshṭra* are described in the epics (cf. Ayodhyākāṇḍa, ch. 67 ; Śāntiparva, ch. 68).

FUNCTIONS OF GOVERNMENT—The successful working of government in a monarchy depends on the qualities and personal character of the king and his ministers. Training of the king in disciplined life was termed *Vainayika* (V.4.34). This is exactly the term used by Kauṭilya who deals with the training of princes in the chapter called *Vinayādhikārika*. He considers *Vinaya* as the foundation of successful governance.

The *Vinayādi gaṇa* includes important terms relating to a variety of governmental functions of which the following may be noted: (1) *Sāmayika*, that which appertains to *Samayas* or established contractual relationships; (2) *Sāmayāchārika*, the subject of customary law or usage—the term forms the subject of a Section in the *Arthaśāstra* (Book V, Sec. 5)—and as stated by Āpastamba was the basis of *dharma* (*Athātaḥ sāmayāchārikān dharmān vyākhyāsyāmaḥ*, *Hindu Polity*, II. 106); (3) *Aupayika*, everything concerning ways and means (*Arth*. II.10, p. 74), *Vyāvahārika* transaction of law; (4) *Ātyayika* urgent business, mentioned both by Kauṭilya (I.15, p 29) and Aśoka (R. E. VI) as already seen, which required immediate attention of the king and his ministers; (5) *Sāmutkarshika*, problems of development; (6) *Sāmpradanika*, affairs relating to royal charities; (7) *Aupachārika*, State ceremonial; (8) *Sāmācharika*, the business of correct procedure. Obviously the author of the *Gaṇa-pāṭha* is here in touch with living tradition borrowing these terms from actual administration.

MISCELLANEOUS DETAILS—We have already noticed the maintenance of Civil List with respect to the allowance of the king's household, ministerial staff and other government servants. Pāṇini, according to the requirements of grammar, mentions only a few names, *e.g.*, the Chief Queen, mother of princes and some of their personal attendants (IV.4.48), but that should be taken as part of a regular system which is deliberated in the *Arthaśāstra*. Salaried staff is termed by Pāṇini as *vaitanika* (IV. 4. 12). We learn from the (*Mahābhārata* that salary was disbursed on a monthly

basis (Sabhāparva, 61.22). Patañjali also refers to *bhṛitaka māsa*, or month as the unit of time for payment of wages (II. 275), and *bhritya-bharaṇīya* or wages of employees (*Bhāshya*, I. 370). The term *karmaṇya* (V. 1. 100) indicated efficiency arising out of adequately remunerated work, as noted by Kauṭilya (*etāvatā karmaṇyā bhavanti*, *Arth.* V. 3, p. 247). Bribery is referred to (V. 1. 47); *e. g.* work for which a sum of rupees five was paid as bribe (*upadā*) was called *pañchaka*. The *Kāśikā* mentions the amounts of such bribes running up to a hundred or a thousand rupees. Reference is also made to the fabrication of accounts, *avastāra* (III. 3. 120), a term also known to the *Arthaśāstra* with reference to corruption prevailing in government offices (*Arth.*, II. 8, p. 65) which resulted in the embezzlement of government money (*kośa-kshaya*).

Secret means employed in the espionage office were called *upanishat*, a pejorative sense of the riginal word *Upanishad* which denoted occult or mystic doctrine (1.4.79). Kauṭilya uses *Aupanishadikam* in the same sense *Artha.*, XV). The adoption of such third degree methods was termed *upanishatkṛitya*. The *Gaṇa-pāṭha* (IV. 4. 12) also mentions *aupanishadika*, a spy making his living by secret means calld *upanishat* (*upanishadā jīvati*). In this connection attention may be drawn to the term *vishya* which according to Pāṇini denoted a person marked out for administering poison (*visheṇa vadhyaḥ*, IV. 4.91). This refers to the nefarious practice of *rasadāḥ*, who formed a branch of the secret service (*Artha.*, I. 12, p. 21 ; V. 3, 248).

SOURCES OF REVENUE—Pāṇini makes a general reference to sources of revenue as *āya-sthāna*; the object of the *sūtra* is to teach that the name of the revenue is derived from the name of the source producing that income (*Ṭhagāyasthānebhyaḥ*, IV. 3.75). It appears that in the account registers maintained for revenue receipts income was entered according to its source. For example, Patañjali mentions *śaulkika*, revenue derived from toll-taxes (cf. *śaulkaśālika* in *Kāśikā*); *gaulmika*, forest plantations; *āpaṇika*,

market-places (IV. 2. 104. 13; II. 295); to which the *Kāśika* adds *ākarika*, income from mines. Pāṇini himself refers to the payment of imposts called *śulka*, (V. 1. 47). Toll-tax was described in terms of its amount, *e. g. pañchaka*, goods on which a toll of rupees five was paid (*tad asmin śulkaḥ dīyate*, V. 1. 47).

Specific mention is made of *śauṇḍika*, or income derived from excise (*Śuṇḍikādibhyo'ṇ* IV. 3.76). Kauṭilya states that the excise department was maintained as a State monopoly. Special regulations are given there to control the revenue from drinking booths. *Śuṇḍika* was the name of distilling plant, so called from the elongated condenser tube (*śuṇḍikā*) attached to the pot. Several specimens of them have been found at Takshaśilā from Kushāṇa levels.

In the *Śuṇḍikādi gaṇa* we find reference to other heads of income, as platforms (*sthaṇḍila*), probably let out in marketplaces, wells (*udapāna*), stone quarries (*upala*), ferries (*tīrtha*), land (*bhūmi*), grasses (*tṛiṇa*) and dry leaves (*parṇa*), the last two items indicating to what limits the sources of revenue were exploited. Even now, contracts in respect of forest produce are given by government for collection of leaves, weeds and grasses.

SPECIAL TAXES IN EASTERN INDIA—There is a provision in *sūtra* VI. 3. 10 to regulate the names of certain special taxes in the eastern parts of India ((*Kāranāmni cha Prāchāṁ halādau*). Four examples are given by the *Kāśikā*: (1) *Sūpeśāṇaḥ*, a levy of one *śāṇa* coin (this coin is known from two *sūtras* of Pāṇini and was equal to one-eighth of a *Śatamāna*) realised per kitchen or household; (2) *Mukuṭe-kārshāpaṇam*, one *kārshāpaṇa* coin per capita (*mukuṭa*); (3) *Dṛishadimāshakaḥ*, one *māshaka* coin collected from each hand-mill in a family; (4) *Hale-dvipādikā* and *Hale-tripādikā*, an imposit of two or three *pāda* coins on each *hala* or plough-measures of land. These appear to have been customary levies imposed by the king on special occasions to meet emergent expenditure. Some of these taxes in

modern terms are *pāg* (per head), *tāg* (per adult or poll-tax), *hār* (per plough), etc.. It may be noted that Pāṇini does not name them by the usual word *kara* for 'tax,' but they were known by the more emphatic word *kāra*. Pāṇini mentions a special class of officers named *Kāra-kara* (III. 2.21), who, it appears, were entrusted with the raising of these taxes. The *Sāmañña-phala Sutta* mentions an officer called *Kāra-kāraka* (II. 38).

ACCOUNTING—*Gaṇana* was the term used for accounting, and *vigaṇana* for discharge of accounts (I. 3.36). The Superintendent of accounts (*gāṇanika*) and the clerks (*kārmika*) are mentioned by Kauṭilya in connection with the annual audit by the Accounts Office (*Arth.* II. 7. p. 64). In the *Ashṭādhyāyī* these two officers are mentioned in the *Gaṇa-pāṭha*, *kāraṇika* in IV. 2.116 and *kārmika* in V. 2. 116. Falsification of accounts was called *avastāra* (III. 3.120). The *Kāśikā* reveals the importance of the Heads of the Accounts Office (*gaṇakas*) when it refers to them as controlling all other officers from their desks in the accounts (*Tishṭhantonuśāsati gaṇakāḥ*, III. 2.126).

DHARMA AND NYĀYA—The word *Dharma* in Pāṇini has a two-fold meaning, firstly an act of religious merit, *e. g.* one who performs *dharma* is called *dhārmika* (IV. 4. 41); secondly it means custom or usage as in *sūtra* IV. 4.92, according to which an act which does not deviate from *dharma* or usage is called *dharmya* (*dharmād-anapeta*). Pāṇini refers to payments fixed by long usage as *dharmya* (IV. 4.47 ; IV. 2.65). This second meaning of *dharma* crystallised in the earliest law, of which the oldest compilations were known as *Dharmasūtras*. Āpastamba commences his work with the statement : *Athātaḥ sama-yāchārikān Dharmān vyākhyāsyāmaḥ* (*Āpas.*, *Dh. S.*, I. 1.1), 'We shall now propound *Dharmas* or laws based on custom.' *Dharma* as a subject of study had been developed under the Vedic *Charaṇas* from before the time of Pāṇini, who refers to this subject in the sūtra *Charaṇebhyo Dharma-vat* (IV. 2.46), showing that the Vedic schools possessed distinctive texts dealing with *Dharma*, which were none else than the *Dharmasūtras*. Kātyāyana explains it (IV. 3.120.11) by saying that a *Charaṇa* had two-fold texts : (1) *Amnāya* or sacred tradition compiled as religious canon, and (2) *Dharma* or customary law compiled from actual life.

Pāṇini takes *Nyāya* as *abhresha*, non-deviation from traditional practice (III. 3.37). An action in accordance with custom or usage was called *nyāyya* (IV. 4.92), which was analogous to *dharmya*.

COURT—Matters concerning Civil Law were termed *Vyā-vahārika* (V. 4.34, *Vinayādi gaṇa*). *Dharma-pati*, master of law, also occurs in a *gaṇa* (IV. 1.84). The arbitrator chosen by the parties to a dispute was called *stheya* (I. 3.23, *vivāda-pada-nirṇetā*, *Kāśikā*). The plaintiff or complainant was known as *parivādī* (III.2.142) or *parivādaka* (III.2.146). A

witness was *sākshī*, whom Pāṇini defines as one who is an 'eye-witness' (*Sākshād drashṭari saṁjñāyām*, V.2.91). Later on these who possessed hearsay evidence were also called *sākshī* (*Samaksha-darśanāt sākshī ; śravaṇād-vā, Vishṇudharmottara*, VIII.13). According to the *sūtra Svāmīśvara*, etc. (II.3.39) a witness was named according to the transaction or object in connection with which he was an eye-witness *e.g.* a witness in relation to cows was called *go-sākshī*, and his evidence would be of use only on that particular point in the complaint.

The practice of administering oaths to witnesses was also known. *Sūtra* V.4.66, *Satyād-aśapathe*, prescribes a two-fold linguistic formation from the word *satya* : (1) *satyā-karoti* was used in connection with the payment of earnest money to settle a bargain ; (2) *satyaṁ karoti* was used in connection with the taking of oath. Manu informs us that this form of oath was reserved for witnesses of the Brāhmaṇa caste (*satyena śāpayed vipram*, VIII.113). For example, it was enough for a Brāhmaṇa to declare solemnly : 'I shall state the truth', and then to proceed with his evidence. The form of the oath for other castes was different and of a more materialistic nature. This nice distinction known to Pāṇini must have been developed in the *Dharmasūtras*, whence the traditon came down to the *Smṛitis*.

A surety was called *pratibhū* in relation to the loan for which he was bound as surety (II.3.39 ; III.2.179).

CIVIL LAW—Of the various items of *Vyavahāra*, only inheritance is referred to in the *sūtras*. One who inherits is called *dāyāda*, and the property which he inherits *dāyādya* (*Dāyādyaṁ dāyāde* VI.2.5). The *dāyāda* was designated according to the object in which he had beneficiary interest, *e.g.* if of several claiments one had an interest in cows, he alone was called *go-dāyāda* (II.3.39).

A co-sharer is referred to as *aṁśaka*, *i.e*, entitled to a share in the property (*Aṁśaṁ hārī*, V.2.69 ; cf. Manu, IX.,

150-53 for division of *aṁśas*). The force of the suffix in the word *hārin* (*āvaśyake ṇiniḥ*) would make *aṁśaka* an heir with legal sanction. Both *dāyāda* and *aṁśa* are technical terms known to the *Dharmasūtras* (cf. *Vasishṭha Dh.S.*, 17. 25 ; 17. 48, 49, 51, 52).

CRIMINAL LAW—Crime was called *sāhasikya* (I.3.32). Various forms of crime are referred to *e g.* theft (*steya*, V.1. 125), robbery (*luṇṭāka*, III.2.155) and way-laying (*paripanthaṁ cha tishṭhati*, IV.4.36). The word *aikāgārika* means a thief, who waits for an opportunity to enter a house when lonely. Buddhist texts use the term in a different sense, *i.e.*, a monk who begged his food from one house only. In the *Majjhima Nikāya* Gautama describes himself as an *ekāgārika*, *dvyāgārika* and *saptāgārika* (Mahāsīhanāda Suttanta).

Various forms of the use of defamatory language and of expressing censure are given.

Punishment both by way of fines and physical torture is mentioned. The former was called *daṇḍa*, as in *sūtra* V.4.2 which regulates the expression for indicating the amount of fine, *e.g.* a fine of two *pāda* coins was mentioned as *dvipadikāṁ daṇḍitaḥ* ; similarly *dviśatikāṁ daṇḍitaḥ*, a fine of 200 *kārshāpaṇas*. An accused adjudged for punishment was called *daṇḍya* (V.1.66, *daṇḍam arhati* ; cf. Yāska, II.2 referring to one fit for clubbing and called *musalya*). Mutilation of limbs was called *chheda*, and the criminal so punished *chhaidika* (V.1.64). Capital punishment was *śīrsha-chchheda* (V.1.65). Heinous crimes as infanticide and murder (*kumāra-ghāta*, *śīrsha-ghāta*, III.2.51) are mentioned ; so also destroying an embryo (*bhrauṇahatyā*, VI.4.174), and killing a Brāhmaṇa (*Brahmahā*, III.2.87). Kauṭilya was in favour of stern administration of criminal justice and mentions *uchchheda* or death (II.13, p. 87) and *chheda* or mutilation of limbs as punishments for serious crimes (*Artha.*, IV.11, p. 229).

FOUR-FOLD DIVISION—The organisation of the army as known to Pāṇini was based on the traditional four-fold division, *viz*. infantry, chariots, horses and elephants. These were known as *senāṅga*, or limbs of the army (II.4.2; cf. *hastyārohāḥ rathinaḥ sādinaścha padātayaścha*, Udyogaparva, 30.25). There is a grammatical rule saying that the names of army-divisions when compounded take singular number, *e.g*. a combination of charioteers and horsemen was called *rathikāśvāroham* ; and of the former and foot-soldiers as *rathikapādātam*. The compounds must have had their origin from the prescribed grouping of these different units for the purpose of military operations. An infantry division was called *padāti* (VI.3.52). Special mention is made of the infantry units organised in the Sālva country (IV.2.135). As against the *padāti* soldiers or footmen were the mounted ones called *sādi* (VI.2.41; cf. *sādi-padāti-yūnām*, Bhīshmaparva, 60.20). Pāṇini makes special mention of dromedary riders or camel corps (*ushṭra-sādi*, VI.2.40). Mule and camel corps together are referred to as *ushṭra-vāmi* (VI.2 40). Army was sometimes named in terms of caste, *e.g*. *Brāhmaṇa-senā*, a Brāhmaṇa battalion (*Kāśikā* on II.4.25).

A big army required, besides its fighting services, a hierarchy of civil officers to manage its organisation, *e. g*. clerks, accountants and men in charge of supply. The accountants in charge of infantry and chariots are named as *patti-gaṇaka* and *ratha-gaṇaka* with a special suffix to denote their functions in connection with military accounts (V.1.129, *Udgātrādi gaṇa*). *Pṛitanā* is obviously mentioned as a Vedic word in *pṛitanāshāṭ* (VIII.3.109).

FIGHTING SERVICES—The army to be effective must be properly manned and officered. A cavalry commander

was called *aśvapati* (IV.1.84). The commander of the army as a whole was *senāpati*, whose rank according to Kauṭilya was one of the highest in the realm mentioned along with the chief-minister and the crown-prince in the civil list. An ordinary soldier who served in the army was known as *sainika* or *sainya* (IV.4.45). A soldier with a marching army or bound for field operations was distinguished as *senāchara* (III.2.17). The principle underlying the nomenclature of the various classes of fighting forces was the same as found at present in such words as musketeers, lancers, riflemen, etc. Pāṇini says that the fighter is named after the weapon which he wields (*Praharaṇam*, IV. 4.57), *e.g.* *āsika* (swordsman), *prāsaka* (lancer), *dhānushka* (bowman). He makes special reference to those fighting with a battle-axe (*pāraśvadhika*, IV.4.58), and spear (*śāktīka*, IV.4.59). Patañjali says that in forming the names of armed persons no suffix is necessary, for example *kunta* would denote both a lance and a lancer (cf. *kūntān praveśaya*, II.218). Amazonian soldiers also seem to be known, as *śāktīkī*, *yāshṭīkī*, mentioned by Patañjali (II.209), but since neither Pāṇini nor Kātyāyana makes provision for the addition of female suffix after *īkak*, it is doubtful if the institution of women warriors was known before the Mauryan period. Kauṭilya mentions them in connection with the emperor's palace-guards (*strī-gaṇair-dhanvibhiḥ*, *Arth.* I.20, p. 12), and it is possible that it was an innovation of Chandragupta. Special mention is made of contingents of armoured soldiers organised as *kāvachika* units (*kavachināṁ samūhaḥ*, IV.2.41). *Kavachahara*, 'one who wears the coat of mail', was a term denoting the age at which a youth was admitted to arms (III.2.10). The armour seems to have become a part of regular military uniform for which a special root (*saṁvarmayati*, III.1.25, dons the armour) had come into use.

PARISKANDA—According to Pāṇini the word was pronounced as *pariskanda* in the Prāchya-Bharata reign (*Kuru-Pañchāla*), and *parishkanda* elsewhere (VIII. 3.75).

The word occurs in the Vrātya hymn of the *Atharvaveda* (XV. 2. 6, *et. seq.*) denoting in the dual, the two footmen running beside a chariot (*Vedic Index*, I. 497). The *Mahābhārata* also refers to footmen protecting the wheels of a chariot on either side (*rathānāṁ chakra-rakshāścha*, Bhīshmaparva, 18.16). The Greeks also found them as forming part of the full equipment of a chariot in the Indian army in the fourth century B.C. It is said of war-chariots that each of them 'was drawn by four horses and carried six men, of whom two were shield-bearers, two archers posted on each side of the chariot, and the other two, charioteers, as well as men-at-arms, for when the fighting was at close-quarters they dropped the reins and hurled dart after dart against the enemy.' (McCrindle, *Alexander's Invasion*, p. 260). The two shield-bearers correspond to the two footmen running by the side of the wheels, and called *chakraraksha* or *pariskanda*.

ARMS—The general term for weapons is *praharaṇa* (IV. 4. 57), also mentioned in the *Arthaśāstra*. Of names of weapons mention is made of bow (*dhanush*, III. 2. 21), spear (*śakti*, IV. 4. 59), battle-axe (*paraśvadha*, IV. 4. 58), long and short lances (*kāsū* and *kāsūtarī*, V. 3. 90 ; *hrasvā kāsūḥ kāsūtarī* ; *kāsūriti śaktirāyudhavishesa uchyate*, *Kāśikā*), a special kind of missile called *heti* (III. 3.97), and sword (*asi* ; also called *kauksheyaka* from its scabbard or *kukshi*, IV. 2. 96). Short lances were effectively used in ancient cavalry units of the Scythians and Parthians both on their advancing and retreating tactics. In the army led by Xerxes against Hellas, the Gandbārians are described by Herodotus as bearing short spears, which seem to have been *kāsūtarī* (Raychaudhuri, *Polit. Hist.*, 1950, p. 242). A bow was also called *kārmuka*, which Pāṇini derives from *karman* or action in the field (V. 1. 103). Sāyaṇa derives it from *krimuka*, name of a tree (*Śatapatha*, VI. 6. 2. 11). According to Kauṭilya a *kārmuka* bow was made of the wood of *tāla* or palmyra tree (*Arth.*, II. 10, p. 102). This agrees with Pāṇini who also refers to a bow made of *tāla*, and itself called *tāla*

(*Tālād dhanushi*, IV. 3. 152, *tālaṁ dhanuḥ*; also mentioned in the *Mahābhārata tālamayaṁ dhanuḥ*). Pāṇini mentions a specially big kind of bow called *maheshvāsa* (VI. 2. 38). According to Kauṭilya a bow was equal to five cubits or seven and a half feet (*Arth.*, X. 5, p. 372). This appears to have been the size of the big bows called *maheshvāsa* in Pāṇini and known much earlier. The Indian soldiers under Puru in the battle of the Vitastā are stated by the Greeks to have used long bows, one end of which rested on the ground and was held by the archer's foot, who shot with its string long and heavy arrows with such force as no breast-plate could withstand.

The arrows were fitted with barbs (*patra*) to make them strike with deadlier effect. Pāṇini refers to the use of barbed arrows (*sapatra*), causing extreme pain (*Sapatra-nishpatrād ativyathane*, V. 4. 61). This is confirmed by the account of Plutarch of the arrow with which Alexander was wounded in the fortress of the Malloi (*Mālavas*). He also gives the measurement of the barb: 'An archer let fly an arrow which transfiexd his cuirass and pierced to the bones around his breast and there stuck fast, the shaft as it projected from the wound aggravating the pain (cf. Pāṇini's *ativyathana*), while the iron of the barb measured four fingers in breadth and five in length'. (McCrindle, *Alexander*, 1901, p. 207).

ART OF WAR—The *Ayudhajīvins* were warrior tribes organised on a military basis into *Saṅghas*, occupying mostly *Vāhīka* or the Panjab. Their members were known as *āyudhīya*, 'making a living by the profession of arms' (*Āyudhena jīvati*, IV. 4. 14). We know that these soldiers put up the stoutest resistance against the Greeks in the fourth century B.C. The Āśvakāyanas of Maśakāvatī and the Mālavas, all *āyudhajīvins*, constituted the finest soldiery, which extorted the admiration of the foreigners. The Kshudrakas and the Mālavas (*Gaṇa-pāṭha* of IV. 2,45), we are informed by Kātyāyana, pooled their military strength in a confederate army called the *Kshaudraka-Mālavī Senā*. The foot-soldiers

(*padāti*) of the Sālva country have been especially noted (IV. 2.135).

Pāṇini also refers to military sports or tournaments (*praharaṇa-krīḍā*, IV. 2.57), in which young men participated for display of archery and swordsmanship. Pāṇini states that the names of battles were derived from a two-fold factor, viz. the names of combatants (*yoddhṛi*) and the objective (*prayojana*) for which they fought (IV. 2.56). The *Kāśikā* cites *āhimāla*, a battle fought by the Ahimāla soldiers (*ahimālā yoddhāro'sya saṁgrāmasya*) ; *syāndanāśva*, fight by contingents of chariots and horses ; *Saubhadra* and *Gaurimitra*, a battle for the sake of Subhadrā and Gaurimitrā. Attacking with an army was termed *abhishenayati* (III. 1.25 ; VIII. 3.65) ; encircling *parishenayati* ; and retreating *pradrāva* (III. 3.27).

ANUŚATIKA—Pāṇini refers to *Anuśatika* (VII. 3 20), who was an officer of the Commissariat, according to the *Śukranīti*. He was an assistant of the *Śatānīka*, or commandant of 100 soldiers. 5 footmen were placed under a *Pattipāla*, 30 under a *Gaulmika*, and 100 under a *Śatānīka* (*Śukra*, (II. 140). The *Anuśatika* looked to army stores and recruitment.[1]

1. तथाविधोऽनुशतिकः शतानीकस्य साधकः ।
जानाति युद्धसंभारं कार्ययोग्यञ्च सैनिकम् ॥ शुक्रनीति २।१४४

CH. VII, PART 2. REPUBLICS IN PĀṆINI

SECTION 5. POLITICAL SANGHA OR GAṆA

JANAPADA AND JANAPADINS—The country was divided into *Janapadas* demarcated from one another by boundaries (*Janapada-tadavadhyoścha*, IV. 2.124). In Pāṇini *Janapada* stands for country, and *Janapadin* for its citizens. The derivative meaning of the term *Janapada* points to the early stage of land-taking by the *Jana* for a settled way of life. This process of the first settlement on land had completed its final stage prior to the time of Pāṇini. The *Janapadas* which were originally named after the peoples settled in them, dropped their tribal significance and figured as territorial units or regions. Pāṇini testifies to this process (*Sūtrakāṇḍa*, I. 2.51-57) by stating that the names of the *Janapadas* did not take after their original settlers, but were then current as independent proper names for territorial units. He even goes to the extent of arguing that if the derivative meaning of such geographical names as Pañchāla was insisted upon, there might be cases in which with the disappearance of the derivative cause, the name of the country itself formed on that basis should disappear (*Lub yogāprakhyānāt*, I.2 54 ; *Yoga-pramāṇe cha tadabhāve' darśanaṁ syāt*, I. 2 55). This appears to be only a rational attempt to meet the views of extreme etymologists ; it does not mean that in Pāṇini's time the essential relationship between the *Janapadas* and the *Janapadin* rulers had in any way weakened. We find that Pāṇini later on makes that relationship a real basis for his *sūtras*. For example, the *sūtra*, *Janapade lup* (IV. 2.81) alludes to the name of a *Janapada* derived from its inhabitants but without any extra afix. Moreover, we find from Pāṇini's own statement than in the majority of the ancient *Janapadas* their original

Kshatriya settlers still held sway and the political power was concentrated in their hands.

In this connection *sūtra* IV. 1. 168, *Janapada-śabdāt kshatriyād-añ*, is important. Grammatically it teaches that the affix *añ* comes in the sense of descendant after a word which is both the name of a country and a Kshatriya tribe. Here the identity of the *Janapadas* and the powerful Kshatriya clans settled there is repeated. These ruling Kshatriyas inhabiting the *Janapadas* were, as we are informed by Kātyāyana, governed by two-fold constitutions; some were monarchies and others were *Saṅghas* or republics (*kshatriyād-ekarjāt saṅgha-pratishedhārtham*, IV.1.168.1). As monarchical states, Pāṇini mentions the following: Sālveya, Gāndhārī, Magadha, Kalinga, Sūramasa, Kosala, Ajāda, Kuru, Sālva, Pratyagratha, Kālakūṭa, Aśmaka, Kamboja, Avanti and Kunti. Besides these names included in the *sūtras*, there might be others which were implied in Pāṇini's rules, of which Patañjali mentions Videha, Pañchāla, Aṅga, Dārva, Nīpa, Sauvīra and Ambashṭha, the latter two being mentioned in the *Ashṭādhyāyī* in a different context. The kings who ruled over these *Janapadas* were Kshatriyas, and the same word denoted both a descendant of the Kshatriyas, *i.e.*, a citizen and their king (*Kshatriya-samāna-śabdāt janapadāt tasya rājanyapatyavat*, IV.1.168.3). For example, Pāñchāla was the name of a Kshatriya descendant of the Pāñchāla tribe and also of the king of that *Janapada*. Similarly, *Pañchālāḥ* in the plural was the name of the country as well as the name of the Kshatriya clan. Although a *Janapada* consisted of other castes also besides the ruling Kshatriya caste, still the political sovereignty was in the hands of the dominant Kshatriya clan who had founded that *Janapada*. This was a fact so patently recognized that Kātyāyana questions the advisability of including the word Kshatriya in *sūtra* IV.1.168. His point is that only the descendants of the ruling Kshatriya tribe were designated by the *apatya* denoting suffix added after the name of a *Janapada* (*Kshatriya-grahaṇānarthakye choktam*,

IV.1.168.2). Patañjali definitely states that such words as *Kshaudrakya* and *Mālavya* denoted only a member of the Kshatriya caste, and not other sections of the population, such as the labourers or slaves living there (II.269). No doubt, there were Brāhmaṇas and other castes also inhabiting these *Janapadas*, but the political power was centred in the hands of the Kshatriyas, and only in exceptional cases of any other caste.

SAṄGHA—We have seen above that Kātyāyana takes *Saṅgha* as a form of government distinct from *Ekarāja*, where sovereignty vested in one (*ekādhīna*), and not in the many as in the *Saṅgha* (*gaṇādhīna*). This meaning is also borne out by the rules of Pāṇini. Pāṇini speaks of *Saṅgha* as a generic term, applied to the following. Firstly, *Saṅgha* means 'a multitude', as in the expression *grāmya-paśu-saṅgha*, a herd of domestic cattle. In the same sense it is also applied to a multitude of human beings. Secondly, a *Saṅgha* was a term for a *Nikāya*, which is defined by Pāṇini as a corporate body where the distinction of upper and lower does not exist (*Saṅghe chānauttarādharye*, III.3.42). This applied to a religious *Saṅgha* functioning as a fraternity without distinctions of high (*uttara*) and low (*adhara*). Thirdly, there is the *sūtra*, *Saṁgh-odghau gaṇa praśaṁsayoḥ* (III.3.86), which speaks of the political *Saṅgha* technically known as *Gaṇa*. *Saṅgha* and *Gaṇa* were used as synonymous words for a republic. Pāṇini speaks of the Yaudheyas as a *Sangha*, whereas they refer to themselves as a *Gaṇa* on their coins, albeit in the post-Pāṇinian period.

THE RELIGIOUS SAṄGHA—Pāṇini mentions the religious *Saṅgha* as *Nikāya*, as we have seen. The religious *Saṅgha* was a perfect copy of the political model except in one important respect. We shall presently see that in the Kshatriya tribes organised as *Saṅghas*, the political power vested in the hands of those families which were eligible for regular coronation (*abhisheka-maṅgala*) and consecrated to rulership by that ceremony (*abhishikta-vaṁśyas*). Other castes in the *Gaṇa* did not share the political power, although

they owed allegiance to the *Janapada* and the *Janapadins* (IV.3.100). This distinction between castes did not obtain in the sphere of religious *Saṅgha* based on equality. In fact, the different orders in the religious *Saṅgha* or Church were known as *Nikāyas*, of which the Buddhist *Saṅgha* in course of time developed eighteen. Not only Buddha, but other religious teachers who were his contemporaries, *e.g.* Purāṇa Kassapa, Makkhali Gosāla, and others have been called *Saṅghino*, heads of *Saṅghas*, *Gaṇino*, heads of *Gaṇas* and *Gaṇāchāriyo*, teachers of *Gaṇas*. The *Saṅgha* spirit in Pāṇini's time had influenced every sphere of public life, political, economic, religious, social and educational. Like the political *Saṅghas*, even *Gotras* and *Charaṇas* had their *aṅka* and *lakshaṇa*.

RĀJANYA AS THE RULING CASTE IN A GAṆA–The term *Rājanya* denoted the Kshatriya descendants of a *rājā*, whereas the others were called *rājana* (IV.1.137. For example, in the Andhaka-Vṛishṇi *Saṅgha*, only some members bore the title *rājanya*, as the descendants of Śvāphalaka, Chaitraka, Śini and Vāsudeva, whereas others like the Dvaipyas (inhabitants of the islands near the sea-coast) and Himāyanas did not have that status although they too belonged to that *Saṅgha* (VI.2.34; *Andhaka-Vṛishṇayaḥ ete na tu rājanyāḥ*). The *Kāśikā* defines *rājanya* as *abhishikta-vaṁśya* Kshatriyas, *i.e.*, leaders of families consecrated to rulership. It appears from this that not all the members of a *Saṁgha* were entitled to exercise political power, which was the privilege of only the governing class. It appears that the descendants of the poineer Kshatriyas who had settled on land and founded the *Janapada* state, treated political sovereignty privilege which was transmitted in their families from generation to generation. In spite of the growth of population in a *Janapada*, the centre of power was not altered and the main authority continued to vest in Kshatriya hands. These Kshatriyas in a *Saṅgha* bore the title *rājā* which was applied to the head of each family who represented his *kula* in the *Saṅgha* assembly. The constitutional practice in the Sabhāparva (*grihe grihe hi rājānaḥ*, 14.2) had reference to this feature of Saṅgha polity, the opposite of which was a *Samrāṭ* government (*samrāj-śabdo hi kritsnabhāk*). Kauṭilya speaks of *Saṅghas* as *rāja-śabd-opajīvinaḥ* (*Arth.* XI.1, p. 378), *i.e.*, 'those whose members bore the title *rājā*. The Lichchhavis are said to have comprised 7,707 *rājans* living in Vesāli and it is stated in the *Lalita-vistara* that each one of them thought: 'I am king, I am king,' (*Ekaika eva manyate ahaṁ rājā ahaṁ-rājeti*). Pāṇini mentions the Vṛijis, of whose confederation

the Lichchhavis formed part. There is a reference in the *Jātakas* to the Lichchhavi rulers consecrated to rulership by sprinkling sacred water on them (cf. *Vesāli-nagare Gaṇa-rājakulānām abhiseka-maṅgala-pokkharaṇī, Jāt.*, IV. 148). A similar custom prevailed amongst the *abhishikta-vaṁśya-rājanyas* of the Andhaka-Vṛishṇis and other *Saṅghas*, which justified their designation *abhishikhta vaṁśya*.

KULA—The phrase *Gaṇa-rājakula* used in connection with the *Saṅgha* of the Vṛijis shows that the political *Saṅgha* called *Gaṇa* was composed of various *rājakulas* or royal families and that the heads of these *rājakulas* constituted the governing body of that *Gaṇa*. This is confirmed by the *Mahābhārata* which says that the members of a *Gaṇa* were equals of one another in respect of birth and family (*Jātyā cha sadṛiśaḥ sarve kulena sadṛiśas-tathā*, Śāntiparva, 107.30). Kauṭilya also states that *kula* was the unit of a *Saṅgha*.

The *kula* basis of the tribes appears to be vitally connected with a number of Pāṇinian *sūtras* dealing with *gotrāpatya* and *yuvan* descendants. Apart from those names which were Rishi *gatras* Pāṇini also includes a number of tribal names in the lists dealt with in the *Gotrāpatya* chapter. The need for distinguishing the *gotra*-descendant from the *yuvan*-descendants should be understood clearly. In fact in the social as well as the political sphere, the family was the unit of representation, which was exercised through the head of each family, called *Kula-Vṛiddha* (Śāntiparva, 107.27). In grammatical literature, Pāṇini refers to him as *Vṛiddha* (I. 2. 65), which was a pre-Pāṇinian term for *Gotra* (*Vṛiddha-śabdaḥ pūrvāchārya-saṁjñā gotrasya, Kāśikā*; also Patañjali, I. 248 on *sūtra* I. 2. 68; Kātyāyana IV. 1. 90.5). Pāṇini in his grammar substituted *Vṛiddha* mostly by *Gotra*, stating that all the descendants of an ancestor in a family except the son of the founder were called *Gotra* (*Apatyaṁ pautra-prabhṛiti gotram*, IV. 1. 162). During his life-time the eldest male member who represented the family was the *Gotra* and the junior members were called *Yuvan*. Pāṇini also uses a third term, viz.

Vaṁśya, to designate him; this also appears to be a pre-Paninian *saṁjñā* incidentally retained (IV. 1. 163). Each individual was given his personal name and a *Gotra* name. The latter came in for special attention by the grammarians owing to its importance in social and political life. According to Pāṇini only one member in the family at a time was to retain the title *Gotra*, the rest were called *Yuvan*. This implies that only one person, usually the eldest male member, represented his *Kula* on all important occasions and functions.

The family basis of *Gaṇa* polity preserved the hereditary character of its rulership vesting in the same families. The number and names of these families comprising the ruling class were carefully preserved as in the case of the Lichchhavis whose number is stated to be 7,707 in Pāli literature. In the capital of the Cheta state mention is made of 60,000 *khattiyas* all of whom were styled *rājāno* (*Jāt.*, VI. 511), and must have represented so many Kshatriya members constituting that State. The craze for constituting new republics had reached its climax in the *Vāhīka* country and north-west India where clans consisting of as many as one hundred families only organized themselves as *Gaṇas*, as in the case of the hundred sons of Sāvitrī establishing themselves as a Kshatriya clan under the name of *Sāvitrī-putras* with the title *rājā* applied to each one of them (Vanaparva, 297. 58; Karṇaparva, V.49; and Pāṇini in the *Dāmanyādi* group, V. 3. 116).

BHAKTI—Pāṇini takes *bhakti* to denote loyalty of the citizen to the State whether a kingdom or a republic, i.e. of the *Janapadins* to their *Janapada* (*sūtra* IV.3.100, *Janapadināṁ janapadavat sarvam*, etc.). The *Kāśikā* mentions, as examples of this kind of *bhakti* or civic loyalty, (1) *Āṅgaka* (*Aṅgāḥ janapado bhaktirasya*), (2) *Vāṅgaka*, (3) *Sauhmaka*, (4) *Pauṇḍraka*, (5) *Madraka* and (6) *Vṛijika*.

We may also consider such terms as *Sraughnaḥ*, *Māthuraḥ*, one owning loyalty (*bhakti*) to the township of

Srughna or Mathurā, as indicative of the civic devotion of a citizen to his city. Such formations as *Prāchya-sapta-samaḥ*, 'a Prāchya for 7 years,' *Gāndhāri-sapta-samaḥ*, 'a Gāndhāri for 7 years' (*Dvigau pramāṇe*, VI. 2.12, as explained by the *Kāśikā*) indicate citizenship acquired by domicile for stated periods.

PARTY SYSTEM—Pāṇini refers to *dvandva* denoting two rival parties, and to *vyutkramaṇa* denoting their rivalry for power (VIII. 1.15). The *Kāśikā* explains it as the division of members into parties sitting separately in the House (*dvivarga-sambandhena prithagavasthitā dvandvaṁ vyutkrāntā ityuchyante*, VIII. 1.15). There were three terms to denote a party-member, viz. (1) *vargya* (IV. 3.45), (2) *grihya*, and (3) *pakshya* (III. 1.119). *Vagga* as a technical term of the Saṁgha vocabulary had the same Pāṇinian meaning and denoted a party, as shown by the Buddha's teaching (*sukhā saṁghassa sāmaggī...neva Bhikkave vaggena saṁgha-kammaṁ kātavyam*, *Mahāvagga*). The Party was named after its Leader (*Vargyā-dayaścha*, (VI. 2.131), e. g. *Vāsudeva-vargya*, *Vāsudeva-pakshya*, *Arjuna-vargya*, *Arjuna-pakshya*. Division of members out of allegiance to their respective parties was termed *vyāśraya* (V. 4.48 ; *nānā-paksha-samāśraya*). This was indicated by a special linguistic formation, *i. e. Devā Arjunato'bhavan*, 'the Devas ranged themselves on the side of Arjuna' and *Adityāḥ Karṇato'-bhavan*, 'the Ādityas ranged themselves on the side of Karṇa.' The existence of party-system in the working of the *Gaṇas* is especially mentioned in the case of the Andhaka-Vṛishṇi *Saṅgha* (VI. 2.34). Patañjali in commenting on Kātyāyana IV. 2.104.11 mentions the party of Vāsudeva and that of Akrūra.

EXECUTIVE—In *sūtra* V. 1.58, Pāṇini refers to the numerical strength of a *Saṅgha* which Patañjali explains as consisting of five, ten, or twenty members (*pañchakaḥ*, *daśakaḥ*, *viṁśakaḥ saṅghaḥ*, V. 1.58 and 59). In *sūtra* V. 1.60, he speaks of a *varga* comprising five members called

pañchad-varga or *pañchaka-varga*, and of another *varga* comprising ten members and named *daśad-varga* or *daśaka-varga* (*Pañchad daśatau varge vā*). This seems to refer to the Executive of a *Saṅgha*.

In the *Antagaḍadasāo*, recounting the subjects ruled by Krishṇa Vāsudeva at Dvārāvatī, reference is made to the ten principal Dāśārhas headed by Samudravijaya (*Samudda-vijaya-pāmokhāṇaṁ dasaṇhaṁ Dasārāṇaṁ*), and to five Mahāvīras with Baladeva as their leader (P. L. Vaidya's edition of *Antagaḍakaśāo*, p. 4). The Dāśārhas were a clan forming part of the Andhaka-Vṛishṇi *Saṅgha*; a reference to ten of them with a Leader implies an Executive Body corresponding to the *Daśaka Saṁgha* of Patañjali on Pāṇini's rule. Similarly the reference to Baladeva and his four deputies constituting the Pañcha-Mahāvīras corresponds to the Inner Group called *Pañchaka Saṅgha*. The *Mahāvagga* (IX. 4.1) also speaks of five kinds of *Saṅghas*, namely, those which had a *Varga* of four, five, ten, twenty or more members.

The *sūtra Pañchad daśatau varge vā* (V.1.60) is of deeper significance. *Varga* here means quorum, or minimum number. It is stated in the *Mahāvagga* (V. 13.2) that the Buddha vested the power of *upasaṁpadā* by means of a regular process, in the *Saṅgha* or the whole body of Bhikkhus; but in the outlying localities (*pachantimā janapadā* IX. 4.1), where the requisite number of monks was not available (*Avanti Dakkhiṇāpatho appabhikkhuko hoti*), the quorum for initiation was to be ten (*na ūna-dasa-vaggena upasampādetabbo*, 1.31.2) and for other matters five (*pañcha vagga gaṇa*). This was permitting *vagga-kammatā* in place of *saṅgha-kammatā* and interdicting the practice of *duvagga* and *tivagga gaṇas*. The Pāṇinian terms *pañchad-varga* and *daśad-varga* seem to have reference to such a contingency.

VOTING—Vote is termed *chhandas* in the *Ashṭādhyāyī* (IV. 4.93). Decisions reached as a result of voting (*Chhandaso, nirmite*) were called *chhandasya* (IV. 4.93). We read in the

Telapatta Jātaka that the ministers and the citizens of Takshaśilā decided to elect the Bodhisattva as their king with one vote (*Atha sabbe amachchā cha nāgarā cha ekachchhandā hutvā, Jātaka*, I.399).

QUORUM—The idea of quorum was known. Pāṇini refers to *gaṇa-tittha* as the person whose attendance completes the *Gaṇa* (*Gaṇasya pūraṇaḥ*, V,2.52 ; similarly *saṅghatithaḥ* and *pūgatithaḥ*). The rule of quorum was strictly observed. The *Mahāvagga* refers to a *gaṇa-pūraka* who acted as the 'whip' to secure a complete quorum (III.3.6).

STATE EMBLEMS—*Aṅka* and *Lakshaṇa*. As mentioned in *sūtra* IV.3.127 (*Saṅghāṅka lakshaṇeshv-añ-yañ-iñām aṇ*), a *Saṁgha* had its *aṅka* and *lakshaṇa*. The *lakshaṇa* denoted the heraldic symbols or marks of a *Saṁgha* which they employed on their coins, seals and banners, etc. Pāṇini himself refers to symbols marked on cattle as *lakshaṇa*. On the tribal coins we find a great variety of symbols and these represent the *lakshaṇas* of the *Saṅghas* which issued them. The *Mahābhārata* takes *aṅka* as a synonym of *lakshaṇa* in describing the census (*Smāraṇa*) of the royal cattle by branding them with proper marks (Vanaparva, 240.5). But in Pāṇini's *sūtra*, *aṅka* seems to stand for the legend adopted by the States, like *Mālavānām jayaḥ*, or *Yaudheya-gaṇasya jayaḥ*, as found on their coins. *Lakshaṇa* is the same as *lāñchhana* or heraldic crest of later Sanskrit.

JAYA—In the *sūtra*, *Jayaḥ karaṇam* (VI.1.202) Pāṇini refers to *jaya* as a technical term implying an instrument of victory (*jayanti teneti jayaḥ, Kāśikā*), which was distinguished from the other word *jaya* denoting victory by an acute accent on its initial vowel. This term is found on many *Gaṇa* coins and must be interpreted in the new light received from Pāṇini' rule. For example, the formula *Yaudheya-gaṇasya jayaḥ* on the coins of the Yaudheya republic, proclaims the coin as the symbol of Yaudheya authority. The issuing of coins was an exclusive prerogative of their sovereignty over that territory.

ĀYUDHAJĪVĪ SAṄGHAS—Pāṇini refers to a number of *Saṅghas* as *āyudhajīvin* (V.3.114-117), meaning those who lived by the profession of arms. In *sūtra* IV.4.14, *Āyudhāch-chha cha*, one who earns his living by means of arms (*āyu-dhena jīvati*) is called *āyudhīya* or *āyudhika*. Kauṭilya refers to two kinds of *janapadas*, (1) *āyudhīya-prāyāḥ* (explined as *āyudhajīvi-Kshatriyādi-prachurāḥ*), those mostly comprising soldiers, and (2) *Śreṇi-prāyāḥ* comprising guilds of craftsmen, traders and agriculturists (VII. 1). The former (and also his *śastropajīvins*) correspond to Pāṇini's *āyudhajīvī Saṅghas*, which were the same as the *yodhājīvas* of Pali literature.

FOUR KINDS OF ĀYUDHAJĪVINS—Pāṇini classified his material of the *āyudhajīvin Saṅghas* under several heads, viz. (1) *Saṅghas* in Vāhīka (V.3.114); (2) of Parvata (IV.3.91) or mountainous country; (3) *Pūgas* organised under their *Grāmaṇī* into some form of *Saṅgha* government (V.3.112); and lastly (4) *Vrātas* living by depradation and violence (V.3.113; V.2.21), and having only a semblance of *Saṅgha*. The most advanced *āyudhajīvin Saṅghas* belonged to the Vāhīka country (V.3.114), which comprised the region from the Indus to the Beas and the Sutlej (Karṇaparva, 44.7; *Hindu Polity*, 1.34). These were the Yaudheyas, Kshudrakas, Mālavas, etc.

MOUNTAINEERS—A very important group of martial *Saṅghas* comprised those occupying *Parvat* or some mountainous region in the north-west. According to the true import of Pāṇini's rule, those whose ancestors once lived in the Parvata region continued to retain their original appellation of the ancestral homeland (*abhijana*), although for the time being they might have migrated elsewhere (*Āyudhajīvibhyaśchhaḥ parvate*, IV. 3. 91; *so'syābhijana iti*

vartate, Kāśikā). Evidently this Parvata region must have been outside the plains of the Vāhīka country, which brings us to the highlands of north-west as the home-land of the *āyudhajīvins*. The *Kāśikā* mentions the *Hṛidgolīyas* of Hṛidgola, probably Hi-lo of Yuan Chwang (modern Hiḍḍā south of Jalalabad); *Andhakavartīyāḥ* of Andhakavarta, perhaps Andkhui, a district in the north-east of Afghanistan (*Imp. Gaz.*, Afghanistan, p. 80), and *Rohitagirīyas* of Rohitagiri, which last is important as reminiscent of Roha, old name of Afghanistan. All this portion of the country is up to the present day peopled by hardy and warlike mountaineers. The *Mārkaṇḍeya Purāṇa* refers to mountain-dwellers (*parvatāśrayiṇaḥ*) of the west, including such names as the *Nihāras* (*Nigrahāra* of *Vāyu*, same as Nagarahāra or Jalalabad where Hṛidgola or Hiḍḍā is situated) and the Haṁsamārgas (modern Hunza in the north of Dardistan). Thus the country of the mountaineers extended from Kashmir to Afghanistan and most of the people settled in these mountains and their valleys were of the *āyudhajīvin* class. The Bhīshmaparva especially mentions the Girigahvaras, dwellers of mountain caves, as a people of the north-west (Bhīshmaparva, 9.68; cf. *Pratīchyāḥ Pārvatīyāḥ*, Udyoga, 30,24) and this epithet appropriately applies to the tribes of the north-west. They were the same as the *saṅghāḥ girichāriṇaḥ* and *girigahvaravāsinaḥ* (Droṇaparva, 93.48). Arrian mentions these mountainous Indians as fighting in the army of Darius against Alexander at Arbela (*Anabasis*, III, 8.3-6). It was these Parvatīya Āyudhajīvins that offered stout resistance to Alexander in Bactria and Gandhāra. The approximate location of these Parvatīyas should be sought for in the region of the Hindukush on both sides of it. Roha, of medieval geographers, Rohitagiri of Pāṇini, the ten *maṇḍalas* of Lohita (Sabhā, 24.16) and Rohitagirīyas of the *Kāśikā*, all together point to the mountainous regions of central and north-east Afghanistan as being the *Parvata* country, which name survives in Kohistan. We may now form a clear conception of the geographical distribution of the three types of

Saṅghas in Pāṇini: (1) the *Āyudhajīvins* of Vāhīka from the Indus upto the Beas and the Sutlej, of whom a special group occupying the mountainous Kangra region was called *Trigarta-Shashṭha* (V.3.116); (2) *Pūgas*, under the leadership of *grāmaṇis*, settled on the right bank of the Indus (*Sindhukūlāśritā grāmaṇiyāḥ*, Sabhāparva, 32.9), corresponding in all probability to the present day "Tribal Area" to the west of the Indus; (3) *Parvatīyas*, or the Highlanders of Afghanistan and the Hindukush, who included also the tribes of Dardistan. These contained many living only in the *Vrāta* stage of existence. It is evident that the *Saṅghas* in the innermost belt were the best organised of all and lived in a higher stage of civilization owing to Aryan contact and proximity and those in the outlying parts were much less civilised.

PŪGA AND VRĀTA—The Vāhīka land and the Parvata country were reeking with *āyudhajīvin* tribes governed by constitutions of different types. The highest form of government evolved amongst them was the *Saṅgha*. Under the *Saṅgha* polity also there were several stages of development. Some were only aristocratic oligarchies; others were of the Rājanya variety whose descendants are to be seen most likely in the Rāṇas of the Panjab Hill States; and still others were politically so well organised as to associate the whole *Janapada* with the sovereign right of issuing coins.

But besides *Saṅgha* there were other elementary forms of democratic institutions in existence amongst those *āyudhajīvins*, three of which as *Śreṇi*, *Pūga* and *Vrāta* are particularly noteworthy. The word *Śreṇi* possessed a political significance also as shown by the expression *Kshatriya-śreṇi* found in the *Arthaśāstra* for a class of *Vārtāśastropajīvins*. The *Mahābhārata* also knows of *Śreṇi* as a political institution. It mentions *Śreṇis* fighting on the side of Duryodhana (*Śreṇayo bahusāhasrāḥ saṁśapatakagaṇāścha ye*, Karṇaparva, V.40). These must be corporations of fighting Kshatriyas. Pāṇini's *sūtra* II. 1. 59, *Śreṇyā-*

dayaḥ kritādibhiḥ, shows the political development at work among the *Āyudhajīvin* peoples organising themselves into new *Śrenis* and *Pūgas*. Bands of *āyudhjīvin* warriors were coming under the general influence of political awakening and emerging into organised political life. The linguistic formation such as *aśreṇayaḥ śreṇayaḥ kṛitāḥ Sreṇikritāḥ* points to these new political developments. Similarly *Pūga-bhūtāḥ*, (*apūgāḥ pūga bhūtāḥ*, 'those who were not organised as *pūga* became so organised'), and *Eka-bhūtāḥ*, 'tribes organising themselves as one political unit under a common ruler' (*ekādhīna*) or king.

PŪGA—*Pūga* was less developed than a regular *āyudhjīvī Saṅgha*, but better organised than a *Vrāta*. The *Kāśikā* makes *Pūga* a species of *Saṅgha* composed of members of different castes without any regular occupation, but probably of a peaceful character intent on earning money (*nānā-jātīyā aniyatavṛittayo arthakāma-pradhānāḥ Saṅghāḥ Pūgāḥ*, V.3.112). Pāṇini mentions *Pūga* along with *Saṅgha* and *Gaṇa* in connection with a quorum, the member whose presence imparted to the *Pūga* its completeness being mentioned as *Pūgatitha* (*pūgasya puraṇaḥ*, V.2.52) This shows that the method of deliberation prevailing in the *Pūga* was similar to that in the well organised *Saṅghas* and *Gaṇas*.

Grāmaṇī Constitution of *Pūgas*. *Sūtra* V. 3. 112 is important as throwing light on the nature and constitution of *Pūgas*. It shows that *Pūgas* derived their names in two ways; some were named after their Leader or *Grāmaṇī*, and some from other circumstances (*Pūgāññyo'grāmaṇī-pūrvāt*, V. 3. 112). The *Kāśikā* mentions Lohadhvaja, Chātaka and Śibi as Pūgas whose names were not derived from those of their leaders. But Devadattaka and Yajñadattaka are given as typical names of *Pūgas* called after the name of their *Grāmaṇī* (*Sa eshāṁ grāmaṇīḥ*, V. 2. 78). Thus those who recognised Devadatta as their *Grāmaṇī* were called *Devadattakāḥ*. This fact is significant, as we

know that the organisation of a corporate band of persons under one leader is still the prevailing custom in the North-West. Many of the Pathan tribes or *khels* are named after their ancestral leaders corresponding to ancient *Grāmiṇīs*. Isazai, Usufzai, both living on the banks of the Indus, are names of this type. The name of the *Pūga* as derived from its original *Grāmaṇī* founder continued later on through generations.

According to the *Aṅguttara Nikāya* (PTS ed-, III. 76) there were five noble careers open to youngmen of arestocratic birth, in which *Pūga-grāmaṇī* is different from *grāma grāmiṇī*. The former was the object of Pāṇini's *sūtra* V.2.78, *Sa eshāṁ grāmaṇīḥ*.

The association of *Pūga* with *Grāmaṇī* in Pāṇini's *sūtra* points to their definite geographical area. We are told in the *Mahābhārata* that the warlike *Grāmaṇīyas*, i. e. clans named after their *grāmaṇīs*, lived on the banks of the Indus and they fought against Nakula in his western campaign (*Sindhu-kūlāśritā ye cha Gaāmaṇīyā mahābalāḥ*, Sabhāparva, 29.5). We may thus locate the *Pūga* type of *Saṅghas* organised under *Grāmaṇī* leaders in the tribal area to the west of the Indus. Pāṇini names some of these war-like tribes of the North-West Frontier, *e. g.* Aśani (*Parśvādi* group, V. 3. 117) perhaps, Shinwāris with their parent-stock of the Kāishbuns, to be identified with Kārshāpaṇas in the same *gaṇa*; the Āprītas or Aparītas (IV. 2.53), same as Greek *Aparytai*, (*Camb, Hist*, p. 339), modern Afridis. The Pathans are an ancient people, settled in their original homeland, the country of Vedic Pakthas, or *Pakteys* (country Paktyike) mentioned as being in the north-west of India by Herodotus (*Ved. Ind.*, I. 464), from which Pakhtun is derived. Several ancient Sanskrit names in the *gaṇas* correspond to names of these clans, e. g, the Pavindas (*Aśvādi gaṇa*, IV. 1. 110) corresponding to modern Powindas settled in the Gomal valley, armed tribesmen formerly occupying the Wana plain (*N. W. F. P, Gaz.*, p. 253), and the Vānavyas (*Naḍādi* group, IV. 1. 99; people

of the Vanāyu country), corresponding to the people of the wide open Wānā Valley in the north of Gomal river.

These clans (*Pūgas*) are still governed by their Council of Elders, which according to the Frontier Crimes Regulation has a determining voice in the adjudication of criminal cases, and which represents survivals of the old form of *Saṅgha* government which obtained amongst them.

Kumāra-Pūgas. In *sūtra* VI.2.28 there is a reference to Youth Orgnaisations of these *Pūgas*, with the prefix *kumāra* added to their names *e g.*, *Kumāra Chātakāḥ*, *Kumāra-Lohadhvajāḥ*, *Kumāra-Balāhakāḥ*, *Kumāra-Jīmūtāḥ* (*Kāśikā*). These must have been organised under the auspices of their parent body or the Elders. Kauṭilya also mentions these two divisions as *Saṁghamukhyas* and *Kumārakas* distinctly existing inside *Saṅgha* organizations (*Arth.*, XI.1, p. 378). It is clear that the terms *kumāra* and *saṁghamukhya* correspond to what Pāṇini has designated as the *yuvan* members and *vṛiddhas*. Both the *Yuvan* and *Vṛddha* members of each family received social and political recognition in the *Kula* as well as the *Saṁgha*.

VRĀTA—The *Vrātas* were bands of war-like roving aboriginal tribes, with whom the Aryans came into conflict. The *Ṛigveda* refers to the Aryan heroes as *vrātasāhaḥ* (VI. 75.9). From Pāṇini it appears that the *Vrātas* lived in an elementary stage of *Saṅgha* government. The *Kāśikā* defines *Vrāta* as a *Saṅgha* living by violence (*utsedha-jīvinaḥ saṅghā vrātāḥ*, V.3.113). Pāṇini refers to *Vrāta* in a two-fold sense, the other being depredation or physical violence by which those people made a living (*Vrātena jīvati*, V.2. 21), from which they were known as *Vrātīnas*. This was the general name given them by *Lāṭyāyana* also. According to Weber they were non-Brahmanical western tribes comprised of *yaudhas* or warriors (Weber, *H.I.L.*, p. 78; *Vedic Index*, II.344, agrees with this). Since Pāṇini's time up to now the predatory habits (*utsedha*) of these tribes have continued. For example, the Zakkakhel clan of the Afridis are notorious as the most active bands of thieves on

the Frontier (*N.W.F.P. Gaz.*, p. 236). The *Kāśikā* explains *vrāta* as physical violence, and the word *utsedha* used there corresponds to *prasedha* of the *Lāṭyāyana Śrautasūtra* used for the *Vrātyas* (*Vrātyāḥ prasedhamānā yānti*, VIII.6.7; commentary, *lokam āsedhantaḥ praśayantaḥ*). The object of *sūtra* V.3.113 (*Vrāta-chphañor astriyām*) is to regulate the formation of the names of *Vrātas* of which the *Kāśikā* cites two examples, *viz.*, *Kapotapākāḥ* and *Vrīhimatāḥ*. The *Mahābhārata* regards the Dārvābhisaras and Darads as *Vrātas* (Droṇaparva, 93.44; Vulgate).

VRĀTAS=*VRĀTYAS*—The *Vrātas* seems to have been the same as *Vrātyas* (cf. Sāyaṇa explaining *vrāta* of *Tāṇḍya* XVII.1.5; as *vrātya-samudāya*). The *Srautasūtras* give details regarding *Vrātyas* as to their modes of life, belongings and dress. They are said to have used a kind of very small wagon covered with a plank for seat and useful for driving along trackless paths (*vipatha*; also *phalakāstīrṇa*, from which Hindi *phirak* a dialectical word still current), a stringless bow not using arrows but probably sling balls or pellets, bellow-like skin quivers (*bhastrā* or *kalāpa*) as used by the Sakas, a silver disc round neck, goat-skin or *postīn* (*āvika*), tilted cornate turban, and a kind of cloth woven with black thread (*vāsaḥ krishṇa daśaṁ kadru*, *Kātyāyana Sr.*, XXI.134), or of a different colour, but fringed with streaks of strong black colour (XXI.135) and called *kadru* (*krishṇa-sūtrotaṁ tat-kadrvākhyam*, com.) Pāṇini's reference to *Taitila-kadrū* (VI 2.42) is very likely to the *kadru* cloth of the Taitila country. Kauṭilya mentions Taitila as a breed of horses which from its association with other names of north-western countries as Kambhoja, Sindhu, Bāhlīka, Sauvīra and Vānāyu (Wana Valley) should be taken as being imported from north-west India (*Arth*, II.30, p. 133). This gives an indication of the place of origin of the *Taitila-kadrū*, if the rendering of *kadrū* as the name of a fabric in use amongst the *Vrātyas* be correct.

The *Vrātyas* were more backward in their political organisation than the *Pūgas*. They were subordinate to a

leader distinguished by his *nishka* ornament of silver (*nishko rājataḥ, Kātyāyana,* XXI. 138 ; *Vedic Index* II.344). Like the *Pūgas*, their leader also seems to have been called a *Grāmaṇī* (V.3.112). In the *Saṁyutta Nikāya*, a *yodājīva gāmaṇi* discourses with the Buddha (IV. 308-09). From his talk it appears that there were many old *āchāryas* among them who themselves being soldiers held out to those dying in action the hope of becoming one with the Sarañjita Devas (the gods of "Passionate Delight," *D. P. P. N.*, II. 1068). This agrees with the description of the *Lāṭyāyana Śr.* which draws a distinction between the *yaudhas* (warriors) and the *arhants* or teachers or priests wearing red turbans. (cf. Patañjali's *lohitoshṇīshāḥ ṛitvijaḥ*, *Bhāshya*, I. 1. 27; I. 86; also *Kāt. Śr.*, XXII. 3.15).

VRĀTYA-STOMAS—Earnest attempts were made to reclaim these people to the Aryan fold by the performance of some, easy rituals called *Vrātya-stoma*, considered adequate to purify them (*mṛijānāḥ yanti*, *Kāt. Śr.*, XXII. 4.26), to put an end to their stigma (*vrātyastomeneshṭvā vrātyabhāvād virameyuḥ*, *ib.*, XXII. 4.29), and to entitle them to social intercourse (*vyayahāryā bhavanti*, *ib.* XXII. 4.30). It is possible that the converted Vrātyas who had been admitted to the Brāhmaṇa or Kshatriya fold were spoken of as *Brāhmaṇa-kṛitāḥ*, and *Kshatriya-kṛitāḥ*, expressions read along with *Sreṇi-kṛitāḥ*, *Pūga-kṛitāḥ*, etc. in the *Sreṇyādi gaṇa* (II. 1.59).

These social formations indicate a vigorous movement to absorb in the Hindu society elements that were at one time outside the Aryan pail. In Pāṇini's time social movements of this type were in brisk operation as evidenced by certain words in the *Ashṭādhyāyī*. Sometimes even after the transition of a particular people from the *Vrāta* stage to that of a *Saṅgha*, pockets of *Vrāta* soldiery continued to exist. This was true of the Andhaka-Vṛishṇi *Saṅgha*, about which Kṛishṇa says that 'contingents, 18,000 strong, are organised still as *Vrātas* in our *Kula* organi-

sation' (*ashṭādaśa sahasrāṇi vrātānāṁ santi naḥ kule*, Sabhāparva, 13.55).

FOUR-FOLD VRĀTYA-STOMAS—The Vrātya-stoma ritual was made an extremely simple affair, allowing much latitude to its performer. Naturally the *Vrātas* could not been expected to handle elaborate ritual. It is therefore laid down that the Vrātya-stoma sacrifice can be performed in ordinary fire (*laukika agni*, com. on *Kāt* I. 1.14), and with such ingredients as could be obtained in each locality (*yathādravye janapade*, *ib.*-XXII. 2.29). One can easily perceive that the four kinds of Vrātya-stomas were prescribed for corresponding elements of the *Vrāta* population :

(1) For cultural leaders in Vrātya society (*vrātyagaṇasya ye sampādayeyuḥ*, *Kāt.*, XXII. 4.3). These were the same as are designated *āchāryas* in the *Saṁyutta Nikāya* (cited above). The *Mahābhārata* refers to them as Vrātyas holding a ladle, i. e. performing rituals for the Vrātya community *sruva pragrahaṇo vrātyaḥ*, Udyogaparva, 35.41).

(2) For those who actually lived by violence, (called *nindita* and *nṛiśaṁsa* (*Kāt.*, XXII. 44), corresponding to the *utsedha-jīvins* of grammatical literature.

(3) For youngsters (*tritīyana kanishṭhāḥ*, *Kāt*, XXII. 4.5 ; =*Yuvānaḥ*), who had not yet developed criminal habits. We are at once reminded of Pāṇini VI. 2.28 referring to *Kumāra-Pūga*. This shows two things, viz. existence of juvenile groups amongst the *Vrātyas*, and similarity in the political texture of *Pūgas* and *Vrātas* as crude *Saṅgha* organisations.

(4) The last Vrātya-stoma converted the elderly members of a Vrātya community, *jyeshṭhāḥ* (*Kāt.*, XXII. 4.6) also called *sthavira* (XXII. 4.7), corresponding to what Pāṇini calls *Vriddha* in distinction to the *Yuvan* members in the families. It is thus clear that this four-fold programme aimed at working on more than one front at a time to accelerate the process of Aryanisation of the Vrātya elements in the population.

ĀYUDHAJĪVĪ SAṄGHAS—Pāṇini mentioned the *āyudhajīvī Saṅghas* by name in *sūtras* V.3.115-17 and in the three *gaṇas* of these *sūtras*, *Dāmanyādi*, *Parśvādi* and *Yaudheyādi*. The chapter opens with a reference to such *Saṅghas* in the Vāhīka country, the cradle-land of martial tribes who cultivated military art as a way of life. Mostly they were Kshatriyas. But *sūtra* V.3.114 (*Āyudhajīvī-saṅghañ-ñyaḍ Vāhīkeshva-Brāhmaṇa-Rājanyāt*) shows that some of them were Brāhmaṇas also, *e.g.* the Gopālavas, and others called Rājanyas, which most likely correspond to those Hill States whose ruling classes designate themselves at present as Rāṇās. The Śālaṅkayanas are stated by the *Kāśikā* to have belonged to the Rājanya class, and they seem to be an ancient community, as even Patañjali mentions them by the name of *Trika* (V.1.58; II.352), probably on account of their League of Three States (on the analogy of *Shashṭha* as applied to the League of Six Trigartas, V.3.116).

NAMES OF SAṄGHAS IN THE SŪTRAS—The following *āyudhjīvī Saṅghas* are mentioned in the *sūtras* :

1. *Vṛika* (V.3 115). An individual member of this *Saṅgha* was called Vārkeṇya, and the whole *Saṅgha* Vṛika. This name standing alone in the *sūtra* with a suffix peculiar from the rest is hitherto untraced. It is stated to be *āyudhajīvin*, but not necessarily associated with Vāhīka. It should probably be identified with Varkaṇa, the Old-Persian form in the Behistun inscription of Darius, mentioned along with Pārthava or the Parthians (*Behistun Ins.*, Col. II.1.16). There is a striking similarity between Sanskrit and Old-Persian forms of the name, *e.g.* Vārkaṇya equal to Vārkaṇa in the singular number, and Vṛikāḥ equal to Varkā in the plural as in the expression *Sakā-Hauma-*

Varkā. The country of the Vṛikas seems to have been the same as Hyrcania laying to the north of Parthia and on the eastern corner of the Caspian (mod. Persian *Gurgan*, from *vṛika*=*gurg*, in the valley of the river of that name in the fertile district of Astarabad (*Sanjana Studies*, p. 251; *Enc. Br.*, 17. 566). The Persians distinguished the Varkas and in fact all the northern warlike equestrian people as Sacas (Persepolis Tomb Insc., *Sakā para-daraia*). The name *Vṛika* was known throughout the north-west as shown by its derivatives found in the several languages near Pāṇini's homeland, e.g. Ishkashmī *wərk*, Yidghā *wurk*, *wurg*, etc. The title Bakanapati or Barkanapati, the chief of Varkaṇas, is applied to a Śaka governor of Mathurā who was associated with the foundation and repair of the Devakula of Wima Kadphises (*J.R.A.S.*, 1924, 402 ; *J.B.O.R.S.*, XVI, 258), whom Jayaswal identified as a Hyrcanian Saka. Pāṇini's acquaintance with a branch of the Śakas is not surprising, since he uses the Śaka word *kanthā* meaning 'town' in six *sūtras*. The Śakas were a very ancient race referred to in the Old-Persian inscriptions of Darius and settled both in Śakasthāna and on the borders of Parthia which were connected with Bhāhlīka and Gandhāra. Kātyāyana also has the expression *Śaka-Parthava* in a *vārttika* showing that in the fourth century B.C. he knew of the Śakas and the Parthians, probably by way of commerce, previous to their political invasions. The Virks are also a section of the Jāts in the Punjab, who originally seem to have been Scythians.

2. *Dāmani* (V.3.116). There is a strong resemblance between the name of this *Saṅgha* and a powerful warlike tribe still known as Damani and settled in the north-western portion of Baluchistan known as Chagai laying to the south of the Chagai Hills (*Imp, Gaz.*, Vol. X, p. 117).

3. *Trigarta-Shashṭha* (V.3.116), the League of the Six Trigartas. Trigarta stands for 'Three Valley's, viz., those of the rivers Ravi, Beas and Sutlej. The Trigartas represented a second cluster mountainous *Saṅghas* being counted

amongst *Parvatāśrayiṇaḥ* (*Mārk. Purāṇa*, 57.57), along with the Nīhāras, Dārvas, Karṇa-Prāvaraṇas, etc. who formed the north-western group. In earlier times this region, as now, was split up into a number of States. The *Kāśikā* mentions the Six Members of this Confederacy as follows:—

(1) Kauṇḍoparatha, (2) Dāṇḍaki, (3) Kraushṭaki, (4) Jālamāni, (5) Brāhmagupta and (6) Jānaki.

These are not identified. Brāhmagupta may be Bhramor. Jānakis are mentioned as helpmates of king Suśarmā of Trigarta (Ādi., 61.17 ; Udyoga, 417).

4. *Yaudheya* (V.3.117). Pāṇini's refrence to Yaudheyas is the earliest known. The Yaudheyas have a long history as shown by their inscriptions and coins of different ages, and were existing upto the time of Samudragupta. Their coins are found in the East Panjab and all over the country between the Sutlej and the Jumna, covering a period of about four centuries, 2nd century B.C. to 2nd century A.D. The *Mahābhārata* mentions Rohītaka as the capital of the Bahudhānyaka country, where a mint-site of the Yaudheyas of Bahudhāñyaka was found by the late Dr. Birbal Sahni. Sunet mentioned as Saunetra by Pāṇini was a centre of the Yaudheyas where their coins, moulds and sealings have been found. The Yaudheyas do not seem to have come into conflict with Alexander, since they are not named by the Greek writers. The Johiyā Rajputs who are found on the banks of the Sutlej along the Bahawalpur frontier may be identified as their modern descendants (*A.S.R.*, XIV., p. 114).

5. *Parśu* (V.3.117). The whole tribe was called *Parśavaḥ*, and a single member *Pārśava*. The Parśus may be identified with the Persians. The Parśus are also known to Vedic literature (*Ṛigveda*, VIII.6 46) where Lüdwig and Weber identify them with the Persians. Keith discussing Pāṇini's reference to the Parśus proposes the same identification and thinks 'that the Indians and Iranians were early connected' (*Ved., Ind* I, 505).

Gandhāra, Pāṇini's homeland, and Pārsa, both occur as names of two provinces in the Behistun Inscription, brought under the common sovereignty of Darius (521–486 B.C.), which promoted their mutual intercourse; Pāṇini knows Gāndhāri as a kingdom (IV.1,169). It seems that soon after the death of Darius Gandhāra became indepdent, as would appear from the manner of its mention by Pāṇini as an indepdent *janapada*. Pāṇini's *Pārśava* is nearer to the Old-Persian form Pārsa (cf. the Behistun Inscription) denoting both the country and its inhabitants, and king Darius calls himself a *Pārsa*, *Pārsahyā pusa*, 'Persian, son of a Persian' (Susa inscription, *J.A.O.S.*, 51.222).

Baudhāyana also mentions the Gandhāris along with the Sparśus amongst western peoples (*Baudhāyana Sr.*, 18. 44, p. 397; *Vedic Index*, II. 489).

ĀYUDHAJĪVĪ SANGHAS IN THE GAṆA-PĀṬHA— The three *gaṇas*, *Dāmanyādi*, *Parśvādi* and *Yaudheyādi* give some more names of *Āyudhajīvī Saṅghas* :

1. *Dāmanyādi group* (V.3.116). The names which are supported both by the commentary on *Chandra* and the *Kāśikā* are Aulapi, Audki, Āchyutanti (or Achyutadanti), Kākādanti, Sārvaseni, Bindu, Tulabha (*Kāśikā* Ulabha), Mauñjāyana and Sāvitrīputra. Of these only the Sāvitrīputras are mentioned in the *Mahābhārata* (Vanaparva, 297, 58; Karṇaparva, V,49) and should be located in the Panjab adjacent to the Uśīnaras. The Sārvasenis (also *Kāśikā*, VIII. 1. 5; VI. 2. 33; cf. Bhīshmaparva, 10,59) seem to be a branch of the Sarvasenas mentioned in the *Śaṇḍikādi gaṇa* (IV. 3. 92), like Gāndhāri-Gandhāra, Sālva-Sālveya. As pointed out by Przyluski *kāra* in Madrakāra meant 'army' or 'troops', being an Old-Iranian word. It is the same as Skt. *senā* (*ante*, p, 57). The Madrakāras were a division of the Sālvas (IV.1.173). In medieval tradition the Sālvas were known as Kārakukshīyas (Hemachandra *Abhidhānachintāmaṇi*, IV. 23), a significant name derived from their territory containing rich pockets of *kāras* or soldiery. This is just the idea of Sārvaseni also,

and it appears that this was the region of north Rajasthan, where we have already located the Sālvas (*ante*, p. 55). This is confirmed by the *Kāśikā* counting it amongst three rainless areas, *viz.* Trigarta, Sauvīra and Sārvaseni. (*Kāśikā* VIII.1.5 ; VI.2.33). Mauñjāyana (V.3.116 ; IV.I. 99) seems to be Munjān in the Upper Oxus region, the home of the Ghalcha dialect called Munjānī (cf. *Mauñjāyanī* in IV.1 73 *gaṇa*). The Baijavāpis seem to be a genuine reading in the *gaṇa*, being included in the commentary on *Chandra* also The name occurs in the *Raivatakādi* (IV. 3.131) and *Sutaṅgamādi gaṇa* (IV.2.80), and is mentioned in the *Bhāshya* (II.4.81 ; I.496), *Charaka* (I.1.10), and the *Satapatha* (XIV.5.5 20, Baijavāpāyana).

2. *Parśvadi* (V.3.117). There are twelve names in this *gaṇa* common to both *Chandra* and *Kāśikā*, only the name Viśāla is new in the *Kāśikā* and may be an interpolation. The first three names Parśu, Rakshas and Asura are mentioned by Patañjali as forming part of this *gaṇa* and must be names of actual peoples and not mythical (*Bhāshya*, II.270). The following is the full list of the *Saṅghas* in this group.

(1) *Bāhlīka.* Identified with Balkh in the extreme north of Afghanistan, which must have been organised as an *āyudhajīvī Saṅgha* in Pāṇini's time. It was reckoned as a satrapy of the empire of Darius, a little before Pāṇini's time.

(2) *Asura.* It is a generic name but in this case may be identified with the name of the Assyrians, whose country formed part of the Persian empire in the fifth century B.C. and is mentioned in the Behistun inscription as Old-Persian *Athurā*, and in Susian as *Assura.*

(3) *Piśācha*, literally, a people who were consumers of raw flesh. Grierson has conclusively shown that the inhabitants of the North-Western Frontier, *i.e.*, of Gilgit, Chitral and Kafiristan, were of Piśācha tribe, were cannibalism, eating raw flesh, once prevailed and he also

observes that in the south of the Kafir country, round about Laghman, are the Pashai Kafirs whom Dr. Hoernle proposed to identify with Piśācha as a phonetically sound equation (Piśācha, *J.R.A.S.*, 1950, pp. 285-83). Discussing the question "Who were the Piśāchas?", he comes to the conclusion that they were originally a real people, probably of Aryan origin, who inhabited the north-west of India and the neighbouring parts of the Himalayas, and were closely connected with the Khaśas, Nāgas, and Yakshas. Pargiter agreeing with Grierson's identification of the Piśāchas has observed that 'there can be no reasonable doubt that their character as demons or goblins was a later preversion of their real nature' (*J.R.A.S.*, 1912, p. 712). The existence of the Paiśāchī Prakrit is so well attested to by literary references that there can be *no* reasonable doubt about its speakers being real human beings.

(4) *Rakshas*. By adding the *aṇ* suffix in a pleonastic sense (*svārthe*) prescribed by this very *sūtra* (V.3.117) we get the word form *Rākshasa*. They also appear to have been an actual people, probably of the north-west group and of the same racial character as the Piśāchas. The Rākshasas, Nāgas and the Piśāchas fight also in the Bhārata war on both sides (Pargiter, *J.R.A.S.*, 1908, p. 331). We find an important tribe named Rakshānis settled in Chagai district of North Baluchistan (*Imp. Gaz.*, X. 117).

(5) *Marut*, unidentified, but possibly connected with the Pathan tribe called the Marwats, now settled in the Marwat Tahsil of Bannu district (*Imp. Gaz.*, VI.394).

(6) *Aśani* and (7) *Kārshāpaṇa* The juxtaposition of these two names seems to be significant, for we find two corresponding Pathan tribes, Shinwari and Karshabun, belonging to the same stock (*Imp Gaz*, *N.W.F.P.*, p.79). The preservation of a caste system, and the sanctity of the cow among the Shins, settled in the eastern Hindu-Kush region, north of Landi Kotal, point to their former religion being Hinduism. The mountain villages where Shins are in majority retain a trace of former idolatry in the sacred stones set up in one

form or another, in almost every hamlet (*Afghanistan Gazetteer*, p. 49). The change in religion has not yet brought about the seclusion of Shin women, who mix freely with men on all occasions, a survival of the days of their freedom.

(8) *Sātvata* and (9) *Dāśārha*. The Sātvata and the Dāśārha clans are stated in the *Mahābhārata* to have formed part of the Andhaka-Vṛishṇi *Saṅgha*.

(10) *Vayas* and (11) *Vasu* are names not identified.

3. *Yaudheyādi group*, is repeated twice in the *Ashṭādhyāyī* (IV.1.178 and V.3.117), a phenomenon somewhat unusual, as observed by the author of the *Nyāsa* (*Vichitrā hi gaṇānāṁ kṛitir-yaudheyādayaḥ punaḥ paṭhitaḥ*). Nine names are common to both lists and they alone seem to be genuine :

(1) *Yaudheya*, as explained above.

(2) *Saubhreya*, probably named after an original ancestor called Śubhra referred to in *sūtra* IV.1.123 (*Subhrādibhyaścha*). The name was possibly connected with the *Sabarcae* of Curtius, who are named as *Sabagrae* by Orosius. After the battle with the *Oxydrakai* (Kshudrakas) near the old junction of the Ravi with the Chenab, Alexander 'marched towards the *Sabarcae*, a powerful Indian tribe where the form of government was democratic and not regal (*Curtius*). Their army consisted of 60,000 foot and 6,000 cavalry attended by 500 chariots. They had elected three generals renowned for their valour and military skill;' (M'Crindle's *Alexander*, p. 252). The above description points to the *Sabarcae* having been an *āyudhajīvī Saṅgha*, which the Śaubhreyas of Pāṇini were. In this case the Greeks particularly noted the form of their government which was democratic and not regal.

The territory of this *Saṅgha* lay on the lower course of the Chenab after it met the Ravi. The tribe was settled near the river by which Alexander was returning with his

fleet after his battle with the Kshudraka-Mālavas. Both banks of the river were thickly studded with their villages (*Alexander*, p. 252).

(3) *Saukreya.* Probably the Scythian tribe *Sakarauloi*, mentioned as *Saruka*, along with *Pasionoi* (*Prāchīnī*) in the Puṇyaśālā Ins. at Mathurā.

(4) *Vārteya*, may be identfied with the Indian tribe *Oreitai*, settled to the west of the river Porali which now falls into the Sonmiani Bay, west of Karachi (cf. Saunāmaneya in *Subhrādi gaṇa* IV.1.23 ; also IV.1.86). According to Curtius the tribe had long maintained its independenee in those parts and it negotiated peace with Alexander through their leaders, which reflects its *Saṅgha* character (*Alexander*, p. 169).

On the east of the river Arabis (old name of Porali) was another independet tribe which the Greeks called *Arabitai*, corresponding to Sanskrit Arabhaṭa (the home of Ārabhaṭi *vṛitti*), a word unknown in Pāṇinian geography, but both of them as the Greeks noted, lay within the geographical limits of India.

(5) *Dhārteya* unidentified, probably the same as the Dārteyas (*Ved. Ind.*, I.353). The Greek writers mention Dyrta as a town of the Assakenoi or the Āśvakāyanas of Massaga, and this may have been the capital of the Dārteyas.

(6) *Jyābāṇeya*, a war-like tribe whose bow-string served as arrow. The Vrātyas of the *Tāṇḍya Br.* (XVII.1. 24) and the *Śrautasūtras* appear to be the same as Pāṇini's *āyudhajīvī Saṅghas* of *Vrāta* type. Amongst them we have a feature called *jyā-hroḍa*, a kind of bow not for shooting arrows (*anishudhanushka*, *Lāṭ. Sr.*, VIII.7 ; and *ayogya dhanu*, *Kāt. Sr.*, XXII.4.13), which seems to be a contrivance for hurling sling balls, most probably a pellet-bow. The *Jyābāṇeyas* seem to be a section of these Vrātyas. The *Mahābhārata* specifically mentions the Mountaineers

(*Pārvatīyas*) as experts in fighting by hurling stone-blocks as big as elephant heads, and secondly by shooting stone-balls with slings (*kshepaṇiya*, Droṇaparva, 121. 34-35).

(7) *Trigarta*, It is mentioned here again although its constituent states (*Trigarta-Shashṭhas*) have been referred to only in the preceding *sūtra* V.3.116.

(8) *Bharata*. This *gaṇa* alone mentions the *Bharatas* as an *āyudhajīvī Saṅgha*. It must be some old tradition, otherwise Pāṇini locates them in the Kuru region, on the borderland of the Udīchya and Prāchya divisions of India. According to another *sūtra* the Kurus lived under a regal form of government. It seems that these Bharatas lived round about Kurukshetra as a *Saṅgha* in Pāṇini's time.

(9) *Uśīnara* already mentioned as a division of Vāhīka. It is likely that it was under the *Saṅgha* government.

The above survey of the names of the *āyudhajīvī Saṅghas* as found in *sūtras* and the *Gaṇa-pāṭha* shows the dominant fact that the *Saṅghas* were clustured in the north-west regions of India and the Punjab, that they were mostly *āyudhajīvins* or martial tribes, a feature retained by most of them to this day, and that they were living in different stages of political evolution, ranging from the *Vrātas* and *Pūgas* to *Śreṇis* and *Saṅghas*, as represented by the wild Piśāchas at one end and the highly organised Yaudheyas on the other.

SOME MORE REPUBLICS—Besides the *āyudhajīvī Saṅghas* stated as such in the *Ashṭādhyāyī*, there were some other communities in Pāṇini's time, which as we know from other sources were republics. These were :

(1) *Vṛiji* (IV.2.131). They are known as *Vajji* in Buddhist literature and said to have included eight confederate clans of whom the Lichchhavis and the Vedehas were the most important, both being described as republics in Buddha's time (*Buddhist India*, p. 25).

(2) *Rājanya* (IV.2.53, V.3.114). They are mentioned also by Kātyāyana and Patañjali and in the *Mahābhārata*. The abundance of their coins in Hoshiarpur district points to it as their region (*vishaya* or *deśa*). According to Pāṇini the country occupied by the Rājanyas was called Rājanyaka. It appears that in the period after Alexander which witnessed large-scale tribal movements, a branch of the Rājanyas had moved to the region of Mathurā where also their coins have been found.

(3) *Mahārāja*. Pāṇini refers to *bhakti* shown to Mahārāja in *sūtra* IV.3.97. So far as the word form is concerned it is the same for the name of Mahārāja as a people and as a deity. The existence of a *Mahārāja Janapada* is proved by their coins found in the Panjab. Traces of the ancient name are probably still preserved in the collection of four large villages in the Moga Tahsil of Ferozpur district which is the headquarters of a Pargana and still called Mahārāja, held by the Maharajki clan of Jats. The Maharajkians who own the surrounding country as Jagirdars form a distinct community, physically robust and opposed to subordination (*Punjab Gazetteer*, I.453).

(4) *Andhaka-Vṛishṇi* (VI.2.34). The Purāṇas make them identical with the Sātvatas whom Pāṇini mentions as a *Saṅgha* in the *Gaṇa-pāṭha*. The *Mahābhārata* refers to them as a *Saṅgha* and so does Kauṭilya. Pāṇini refers to Rājanya leaders amongst the Andhaka-Vṛishṇis, which as explained by the *Kāśikā* denoted members of such families as were entitled to be consecrated to rulership (*abhishikta-vaṁśya*). The chief feature of the Andhaka-Vṛishṇi constitution appears to be a full-fledged party system. The party of Akrūra and that of Vāsudeva are referred to by Patañjali showing that the followers of each leader were designated in accordance with their respective party leaders, *e.g. Akrūra-vargya*, *Akrūra-vargīṇa* and *Vāsudeva-vargya*, *Vāsudeva-vargīṇa* (II.295).

(5) *Bharga* (IV.1.178). Pāṇini refers to the Bhargas

as a Kshatriya tribe. The Buddhist records mention them as a republic.

NAMES OF SOME IMPORTANT TRIBES—Some tribes in the *Gaṇa-pāṭha* deserve to be mentioned as being of considerable importance. We are indebted to the Greek historians of Alexander for the information that most of these were republics.

(1) *Kshudraka* (IV. 2. 45) identified by Sir R. G. Bhandarkar with the *Oxydrakai* of Greek writers. Curtius refers to them as *Sudracae* (M'Crindle, *Alexander's Invasion*, p. 238).

(2) *Mālava* (Gk. *Malloi*). According to the Greek writers both these communities were settled in the region where the Ravi joins the Chenab. They are said to have offered the stoutest resistance to the Greek invaders.

(3) *Vasāti* (IV.2.53 ; *Rājanyādi gaṇa*) identified with Greek *Ossadioi*, settled somewhere in the region of the confluence of the Chenab and Sutlej with the Indus.

(4) *Āprīta* (*Rājanyādi gaṇa*). These are to be identified with the *Áparytai* of Herodotus *C.H.I.*, p. 339), the ancestors of the Afridis, whose own pronunciation of the name is *Āprīdī*. Their country is called Aprīdī-Tīrāh. *Aparīta* meaning 'irresistible' was a Ṛigvedic word, and the form *Āprīta* seems to be a later popular form of the same.

(5) *Madhumant*.—Pāṇini mentions Madhumant as the name of a country in the region of Gandhāra (*Kachchhādi*, IV.2.133 ; *Sindhvādi*, IV.3 93). The name occurs in *sūtra* IV.2.86 also as a *deśa-nāma*. The *Mahābhārata* mentions the *Madhumantaḥ* as a people of the north-west (Bhīshma-parva, IX.53). The Madhumants are clearly the Mohmands, who occupy the territory to the north of the Kabul river, their home-land Dīr-Bajaur covering an area of 1200 sq. miles *Afghanistan Gaz.*, p. 225). On the map one can at once notice the relative position of these two powerful

tribes who were close neighbours. What appear to be the ancient names of Dīr and Tīrāh are preserved in Patañjali, who refers to *Dvīrāvatīko deśaḥ, Trīravatīko deśaḥ* as pair names (*Bhāshya*, I.4.1 ; I.301 ; II.1.20 ; I.382). The former is Dīr (land of the two rivers) so called from the Mohmand homeland between the Kunar and Panj-kora rivers. Similarly the extensive Afridi-Tīrāh was *Trīrāvatīka*, from the three rivers Kabul, Bara and Indus (*Kubhā-Varā-Sindhu*) which enclose it.

(6)-(8) *Hāstināyana, Āśvāyana, Āśvakāyana* The first is mentioned in *sūtra* VI.4.174, the second in IV.1.110, and the third in the *Naḍādi gaṇa* (IV.1.99).

While describing Alexander's campaign from Kapiśa towards the Indus through Gandhāra, the Greek historians mention three important war-like peoples, viz. the *Astakenoi*, with capital at Peukelaotis, the *Aspasioi* in the valley of the Kunar or Chitral river, and the *Assakenoi* settled between the Swat and the Panjkora rivers, with capital at Massaga, and more specially in the mountainous regions of the Swat. The Pāṇinian evidence throws light on these three names for the first time :

(*a*) Aspasioi = Āśvāyana ; in Choes Alisang or Kunar Valley. Choes River of the Greeks was the same as Hvaspa of the *Avesta* (Zamyad Yasta, 67), equal to Sanskrit Śvaśva, meaning the region of excellent horses (Modi, *Asiatic Papers*, II.207).

(*b*) Assakenoi = Āśvakāyana ; in the Swat valley and highlands, with capital at Maśakāvatī.

(*c*) Astakenoi = Hāstināyana ; near the confluence of the Swat with the Kabul, with capital at Pushkalāvatī.

The Āśvāyanas and the Āśvakāyanas were the bravest fighters of all, being strongly entrenched in their mountainous fortresses. Alexander himself directed the operations

against them. The Āśvakāyana capital at Massaga or Maśakāvatī is given in the *Bhāshya* as the name of a river (IV.2.71), that should be looked for in that portion of the Suvāstu in its lower reaches where Mazaga or Massanagar is situated on it at a distance of 24 miles from Bajaur in the Yusufzai country. In times of danger the Āśvakāyanas withdrew into the impregnable defences of their hilly fortress which the Greeks have named Aornos. It appears to be the same as Varaṇā of the *Ashṭādhyāyī* (see *ante*, p. 69, for its identification with modern Uṇā on the Indus). The Greeks also mention another of their towns, viz. Arigaeon, which commanded the road between the Kunar and the Panjkira valleys, and is comparable with Ārjunāva of the *Kāśikā* (*rijunāvām nivāso deśaḥ*, IV.2.69).

CHAPTER VIII

CHRONOLOGICAL CONSIDERATIONS

Our study of the historical material preserved in the *Ashṭādhyāyī*, its geographical and cultural data, glimpses of social life and religious institutions, may help us to ascertain its chronological position.

PREVIOUS VIEWS—The question of Pāṇini's date has been discussed by many previous writers with different conclusions. We may profitably consider them. Goldstücker in his well known work held that Pāṇini must have lived in the seventh century before the Christian era at the latest. He rightly observed: '*The investigation of the relative position which Pāṇini holds in ancient Sanskrit literature is more likely to lead to a solid result, than speculations as to the real date of his life.*' (*Pāṇini, His Place in Sanskrit Literature*, p. 67). His position was that Pāṇini lived after Yāska and before the Buddha. Sir R. G. Bhandarkar held the same view mainly on the ground that Pāṇini does not show aquaintance with South India. Pathak assigns him to the last quarter of the seventh century B. C., just before the appearance of Mahāvīra, the junior contemporary of Gautama Buddha. (*A. B. O. R. I.*, XI., p. 83). D. R. Bhandarkar proposed seventh century B. C. in his 1918 Carmichael Lectures (p. 141), which he later changed to about the middle of sixth century B.C (*A I.N.*, 1921, p. 46). Charpentier thinks that the date should be 550 B.C. (*J.R. A.S.*, 1913, p. 672-74). His revised view was: 'As for the date of Pāṇini I have suggested, sometime ago, that it should be placed somewhere about 500 B.C. and I feel more and more convinced that such a suggestion is mainly correct.' (*J.R.A.S.*, 1928, p. 345). H. C. Raychaudhury holds: 'In all probability Pāṇini lived after the Persian conquest of Gandhāra in the latter half of the sixth century

B.C., but before the fourth century B.C. With a date in the fifth century B. C. all the evidence accommodates itself.' (*Early History of the Vaishṇava Sect*, 1936, p. 30). Grierson believed that a century or 150 years at the most elapsed between Pāṇini and the Aśokan inscriptions, which represent the spoken dialect of the day. This would place Pāṇini about 400 B.C. Macdonell's latest view (*India's Past*) was that Pāṇini did not live later than 500 B.C. Bohtlingk, however, makes Pāṇini more modern by dating him to about 350 B. C. Weber placed him subsequent to Alexander's invasion. It is unfortunate that scholar of his depth and mastery over grammatical intricacies should through a grievous misunderstanding of the *kārikā* on sūtra IV.2.45 about Āpiśali and Kshudraka-Mālavas, have advocated a specious argument about the relative dates of Āpiśali, Pāṇini and Alexander (*H.I.L.*, p. 222; see V. S. Agrawala, Patañjali on the Kshudraka-Mālavas, *Poona Orientalist*, Vol. I, No. 4, Jan. 1937, pp. 1-7). Liebich's opinion on this point is that we have not yet sufficient ground to come to a definite conclusion, but that in all probability Pāṇini came after the Buddha and before the commencement of the Christian era, and that he was nearer the earlier than the later unit. It would thus appear that the range of Pāṇini's date is in the opinion of scholars limited to a period of three centuries between the seventh and the fourth century B C. We may now try to examine this question more closely within these two limits on the basis of the data set forth above.

LITERARY ARGUMENT—As Liebich has summed up, the literary argument of Goldstucker leads to the following result: the *Araṇyakas*, *Upanishads*, *Prātiśākhyas*, *Vājasaneyī Saṁhitā*, *Śatapatha Brāhmaṇa*, *Atharvaveda*, and the six philosophical systems were unknown to Pāṇini, but he knew the *Ṛigveda*, *Sāmaveda* and *Kṛishṇa Yajurveda*. He holds that Pāṇini lived after Yāska. This argument does not bear scrutiny. Thieme from his critical study of Pāṇini's Vedic material has shown that the Vedic texts undoubtedly used by

Pāṇini included the *RV. MS., KS., TS., AV.*, and most probably the *SV.* (*Pāṇini and the Veda*, 1935, p. 63); he further opines that Śākalya's Padapāṭha of the *Ṛigveda* and the *Paippalāda Śākhā* of the *Atharvaveda* were also known to him. To take another significant example, Goldstücker had come to the conclusion that Pāṇini did not know the *Upanishad* literature, and hence his time should be antedated to the Upanishadic period. This position cannot be maintained since Pāṇini knew the word *Upanishad* in a pejorative sense (I.4.79) which must have taken considerable time to develop after the close of the Upanishadic age. On the basis of this *sūtra* Keith also accepted Pāṇini's knowledge of the Upanishads (*Tait. S.*, Eng. Trans., p. clxvii). But Pāṇini's literary horizon is not confined to Vedic texts only; it goes much further to include those several stages of literary and linguistic evolution at the end of which his own work came into existence. The Chapter on Literary Data has set forth this evidence exhaustively, and in that light we may vouchsafe that the process of literary evolution inside the Vedic *Charaṇas* had already brought into existence such literary types as the *Kalpa Sūtras* and the *Dharma Sūtras*. Outside the *Charaṇas* much of the Vedāṅga literature as *Vyākaraṇa*, with its special commentaries on Nouns and Verbs (*Nāmika* and *Ākhyātika*, IV.3.72) and a vast body of Yājñika literature and its commentaries had been compiled. Pāṇini also knows of the *Mahābhārata* (referred to for the first time in the *Āśvalāyana Gṛihya Sūtra*), the text of which must have taken shape by his time (Utgikar, *Bhandarkar Commemoration Volume*, p. 340). Further, he refers to later literary types, as *śloka* and their authors the *ślokakāra*, to secular subjects like *Naṭasūtras*, and even to classical Sanskrit works, such as *Siśukrandīya*, *Yamasabhīya*, and *Indrajananīya*, which were the earliest examples of classical poetry and are mentioned for the first time by Pāṇini. Pāṇini thus witnessed the rise of classical Sanskrit poety and the *sūtra* and *śloka* forms of literature flourishing tegether in his time. Moreover, the style of his *sūtras* is much more finished, as he

himself would call it (*pratishṇātaṁ sūtram*), than that of some of the *Dharma*-and *Gṛihya-sūtras*. We must therefore abandon Goldstücker's estimate of Pāṇini's time.

PAṆINI AND THE SOUTH—The argument that Pāṇini did not know of South India should not be pressed too far. Firstly, Yāska whom even Goldstücker considers prior to Pāṇini shows acquaintance with southern social customs and grammatical usage. As pointed out by Keith, Yāska "already mentions a southern use of the Vedic word *vijāmātṛi* for a son-in-law who pays to his father-in-law the price of the bride (*vijāmāteti śaśvad Dākshiṇājāḥ krītāpatim āchakshate*, *Nirukta*, VI.9 ; Keith, *His. of Sans. Lit.*, p. 15). Secondly, the Deccan was the home of Sanskrit as early as Kātyāyana's time whom Patañjali regards as a southerner on account of his partiality for the use of Taddhita (cf. *priya-taddhitāḥ Dākshiṇātyāḥ*). Kātyāyana is not far removed in time from Pāṇini. According to Eggeling : 'As regards the dates of Kātyāyana and Patañjali I accept with Professor Bühler and others, as by far the most probable the fourth and the middle of the second century B.C., respectively (*Śatapatha Br.* Intro.). Thirdly, Pāṇini besides referring to the sea and the islands lying near the coast and in mid-ocean, actually mentions that portion of the country which lies between the tropics as *antarayana deśa* (VIII.4.25). It can refer only to the Deccan lying south of the Tropic of Cancer, which passes through Kachchha and Avanti. Pāṇini also knows of Aśmaka on the Godāvarī (modern *Paithaṇa*) which was south of Avanti. He also refers to Kaliṅga on the eastern coast which too lay within the tropics. We thus see that Pāṇini's silence about the south is not quite so absolute as presumed by Sir R. G. Bhandarkar.

PĀṆINI AND MASKARĪ—It has been shown above that Pāṇini's reference to Maskarī Parivrājaka in the light of Patañjali's explanation of that name connecting it with the *Karmāpavāda* doctrine, points to the teacher Maṅkhali Gosāla, whose doctrine of Determinism, *Daishṭika Mati*, also

finds mention in Pāṇini. Dr. Hoernle holds that Gosāla lived about 500 B.C. (Ājivikas, *Hasting's Ency. of Religion and Ethics*, I.259 seq.). According to the *Bhagvatī Sūtra*, Gosāla founded his order at Sāvatthī sixteen years before his death. Charpentier agreeing generally with Hoernle thinks that the date of Maṅkhali's decease should be moved a little later (*J.R.A.S.*, 1913, p. 674). This suggests the upper limit of Pāṇini's time at about 500 B.C.

PĀṆINI AND BUDDHISM—The fact that Maṅkhali Gosāla was a contemporary of the Buddha and also known to Pāṇini help us to understand some of the *sūtras* dealing with a few terms which have greater association with Buddhism, *e. g. Nirvāṇa* (VIII. 2. 50); *Kumārī Śramaṇā* (maiden nuns, II.1.70); *chīvarayate* in the sense of 'donning the monk's robe' as explained by the *Kāśikā* (*saṁchīvarayate bhikshuḥ*, III.1.20), and the religious *Saṅgha* called *Nikāya* which did not know the distinction of upper and lower (*auttarādharya*). Such a *Saṅgha* was a typical Buddhist institution. It had been the custom among the primitive religious wanderers to be organised under a head who was called master (*Satthā*). But the Buddhist sect after his decease developed on different lines, which was looked upon by contemporaries as somewhat strange. The headship was abolished, all members of the *Saṅgha* were on a footing of equality. The principle of obedience to a Master was watered down to respect and reverence for elders and politeness for equals. For the discharge of the functions of its collective life, the whole body of monks constituted a perfectly democratic community. This is exactly the nature of the new religious *Saṅgha* envisaged in the significant Paninian term *anauttarādharya*, III.3.42). The political *Saṅgha* called *Gaṇa*, although professing to be democratic, worked on a different model in which some were *rājānaḥ* and the others commoners. These institutions mark out a date for Pāṇini after the Buddha.

SRAVISHṬHĀ AS THE FIRST NAKSHATRA— In a list of ten *nakshatras* in *sūtra* IV.3.34, Pāṇini puts Śravishṭhā as the first. Although the other stars in the *sūtra* are not strictly in the order of the ecliptic, the commencement of the list with Śravishṭhā appears to have a reason for it. Śravishṭhā was the first star in the calendar of the Vedāṅga Jyotisha which must have been compiled during the period when other Vedāṅga works including Vyākaraṇa were also written. As the subject is full of technical difficulties it would be safer to go by the opinion of experts in the matter. The relative positions of the *nakshatra* lists together with their significance is stated by G. R. Kaye as follows : 'The early lists all begin with Kṛittikā, but the *Mahābhārata* puts Śravaṇa first. The Jyotisha Vedāṅga begins with Śravishṭhā; the *Sūryaprajñapti* with Abhijit, the *Sūrya Siddhānta* with Aśvinī. But here Aśvinī is definitely equated with the vernal equinox, while Abhijit, Śravaṇa and Śravishṭhā, which are continuous, are equated with the winter solstice......' (The Nakshatras And Precession, *Indian Antiquary*, Vol. 50, p. 57).

According to Tilak, as quated by Kaye, it was stated by Garga that Kṛittikā was first for purposes of ritual, while for the purpose of the calendar Śravishṭhā was put first, the same as we find in Pāṇini's list. Leaving aside the question of the Kṛittikās standing at the head of the asterisms and the possible basis of this phenomenon in the coincidence of the vernal equinox with Kṛittikās at a certain epoch connected more properly with Vedic chronology, we must consider the implications of the reference to Śravishṭhā as the first of the Nakshatras. The generally accepted theory is that the Nakshatras were 27 or 28 constellations that roughly marked out the ecliptic. The winter solstice was at the first point of the Dhanishṭhā in the period of the Vedāṅga Jyotish when Dhanishṭhā was put first. Later on it travelled to the preceding Nakshatra Śravaṇa, and at the time when this happened the asterism Śravaṇa was reckoned as the first in the calendar.

It is the latter phenomenon, *viz.* the recording of the Nakshatra Śravaṇa at the head of the list that is definitely alluded to in a passage of the *Mahābhārata* of considerable historical interest. Fleet discussed the epic evidence, *Śravaṇādīni rikshāṇi* (the Nakshatras begin with Śravaṇa, Aśvamedhaparva, 44,2) to show that the winter solstice had travelled westwards from the first point of Śravishṭhā (Dhanishṭhā), where it was placed by the astronomy which was preserved in the Jyotisha-Vedāṅga, and was in the preceding Nakshatra Śravaṇa (*J.R.A.S.*, 1916, p. 570). Prof. Keith carrying the discussion further admitted the correctness of Fleet's view and pointed out that the passage had been much earlier discussed by Hopkins with the same result in the *J.A.O.S.* for 1903 (*J.R A.S.*, 1917, p. 133). It is, however, interesting to note that a passage in the Vanaparva, refers to the Dhanishṭhādi reckoning of the stars (Vanaparva, 230.10) as done by Pāṇini.

The important question to be discussed in this connection is the determining of the time when the transition of the winter solstice from Dhanishṭhā to Śravaṇa took place. This would naturally mark the lower limit of Pāṇini's date, since in his enumeration of stars (IV.3.34) he put Dhanishṭhā at the head of the list. It may be mentioned in this connection that the *Mahābhārata* attributs to Viśvāmitra the new arrangement of asterisms by substituting Śravaṇa for Dhanishṭhā. Prof. Keith taking Viśāmitra as an astronomical reformer takes that reform to have consisted in putting Śravaṇa at the beginning of the asterisms in place of Dhanishṭhā (*J.R.A.S.*, 1917, p. 39).

Prof. Jogesh Chandra Ray has investigated the time of the transition of the winter solstice from the first point of the Dhanishṭhā to the star Śravaṇa on the basis of astronomical calculations in his paper entitled 'The First point of Aśvinī' (1934). His conclusion is that the Nakshatra Sravishṭhā is the star *Beta Delphini*, and that it was in the fourteenth century B. C., or in the year B. C. 1372 when the sun, moon and the star Śravishṭhā were in

conjunction at the time of the winter solstice, and since one Nakshatra period changing at the rate of about one degree in 70 years takes somewhat less than a thousand years (about 933 years), it was in the fifth century B.C. that Śravaṇa occupied a position in relation to the winter solstice similar to that occupied by the Śravishṭhā previously. Counting from B.C. 1372, the precession amounted to one Nakshatra-space in B. C. 405, and the nearest year in which new moon happened on the day of the winter solstice was 401 B C. At this time Śravaṇa was observed as the star of the winter solstice and recorded by astronomers as being the first in the list of Nakshatras, a fact implied in the statement of the *Mahābhārata* cited above (*Śravaṇādīni rikshāṇi*) and interpreted in this light by Fleet, Keith and others. In case the date 401 B.C. represents the year of Śravaṇa Nakshatra coinciding with the winter solstice, the literature and authors referring to Śravishṭhā as the first of the Nakshatras must be placed anterior to that date. With reference to the question of Pāṇini's date this gives us a reliable basis to fix the lower limit of his date at about 400 B.C. The upper limit as stated already may be *circa* 500 B.C. from the date of Makkhali Gosāla referred to as Maskarī in the *Ashṭādhyāyī*.

THE NANDA TRADITION—There is a strong tradition preserved in both the Buddhist and Brahmanical literatures that Pāṇini was a contemporary of some Nanda king. Tārānātha, in his *History of Buddhism* compiled from older sources (1608 A.D.) states that Pāṇini lived in the time of a Nanda king. Somadeva (1063-1081) in the *Kathāsaritsāgara* and Kshemendra in the *Bṛihatkathāmañjarī* (11th century) also associate Pāṇini with king Nanda and his capital Pāṭaliputra. The newly discovered *Mañjuśrī-Mūlakalpa*, which Jayaswal placed roughly at about 800 A.D., confirms the tradition that 'king Nanda's great friend was a Brāhmaṇa, Pāṇini by name' (Jayaswal's edition, p. 14), and also adds that in the capital of Magadha there were Brāhmaṇa controversialists who gathered at the king's

court. Yuan Chwang from his record of the tradition as handed down in Pāṇini's birth-place, Śalātura, states that Pāṇini after finishing his work sent it to the supreme rular, who exceedingly prized it and issued an edict that throughout the kingdom it should be used and taught to others (*Siyuki*, p. 115). Although the name of the king and that of the town of Pāṭaliputra are not mentioned, he confirms the tradition of Pāṇini's connection with a royal court and of the patronage bestowed upon him in recognition of his work. Rājaśekhara (900 A.D.) connects Pāṇini with the *Śāstrakāra Parīkshā* of Pāṭaliputra which as we have shown corresponds with the account of the Great Synod or the literary assembly held under royal patronage which Megasthenes found functioning at Pāṭaliputra as an old institution (M'Crindle's *Megasthenes*, Frag. XXXIII; *Strabo*, XV.1). A tradition which is thus testified by different sources, Greek, Chinese, Indian, seems to be based on truth. The contact between *Udīchya* (Northern) and *Prāchya* (Eastern) scholars was a feature of intellectual life of ancient India from the time of the *Upanishads*, as in the case of Uddālaka Āruṇi of Pañchāla proceeding to the Madra country in search of higher knowledge. Pāṇini also shared in this kind of intellectual intercourse. We have seen the same thing in the career of Chaṇakya who visited Pāṭaliputra in quest of disputation (*ante*, p. 20).

An important factor in determining Pāṇini's time would be the name and time of the Nanda king known to Pāṇini. The question is of admitted difficulty owing to confusion in the chronology of the Nandas. There are, however, two points more or less fixed: (1) the year 326 B.C. as the final year of the last Nanda king, ruling over the country of the *Prasii* and *Gangiridae* as reported to Alexander. He was overthrown by Chandragupta Maurya. The other date is obtained by reckoning from the fifth year of king Kharvela who in the Hathigumpha inscription dated in the year 165 of the era of Rājā Muriya refers to Nandarāja in connection with a canal excavated

by him 300 years earlier. Another passage in the same inscription records that king Nanda carried away to Magadha the statue of the first Jina. We thus find King Nanda ruling in Pāṭaliputra about the year 465 B.C. The Nanda king can be no other than Nandivardhana (*Early History of India*, p. 44). Of the kings of Śiśunāga dynasty as given in the *Purāṇas* Nandivardhana and Mahānanda occur as the last two kings after whom came the base-born Nandas. With the point 465 B.C. falling within the reign of king Nanda, we arrive at a tolerably fixed period for the reigns of these two Nanda kings as c. 473 B.C. to 403 B.C. Mahāpadma Nanda and his sons appear to have followed from about 403 B.C. to 323 B.C. According to Tārānātha, Nanda the patron of Pāṇini was the father of Mahāpadma. It is thus evident that the Nanda king, the reputed contemporary and patron of Pāṇini of the popular stories is Mahānanda, son and successor of Nandivardhana, or the Nandarāja of the Hathigumpha inscription. In view of the joint period of the reigns of Nandivardhana and Mahānandin as stated above, we may assume the dates c. 446 to 403 B.C. for the reign of Mahānandin.

The above hypothesis of Pāṇini's date based on the traditional account of his contemporaneity with a Nanda king fits with the other known facts about him. The various lines of arguments in connection with Pāṇini's chronology seem to converge at this particular point, *viz.* the middle of the fifth century B.C.

It is worth nothing that grammatical literature also has preserved some references to the Nanda tradition. In the illustration *Nandopakramāṇi mānāni* (*Kāśikā* on II.4.21) we have an allusion that the weights and measures of the country were standardised for the first time by king Nanda. Again in *sūtra* VI.2.133 Pāṇini says that the word *putra* coming after the word *rājā* does not take an initial acute accent. The commentators agree that the word *rājan* includes here also the specific names of

individual kings, and in this connection they remember the name of king Nanda, whose son is referred to as Nanda-putra. We have the testimony not only of Khārvela that the name of the king ruling in 465 B.C. was Nanda, but the form is also supported by the Jaina tradition and the *Bhavishya Purāṇa* as pointed out by Jayaswal (*J.B.O.R S.*, 1917). We may identify Nanda-putra with Mahānandin, son and successor of King Nanda or Nanda-rāja, or Nandivardhana.

POLITICAL DATA—Pāṇini refers to Magadha as one of the monarchies, but it was not yet an empire. In his time the Udīchya country was made up of a number of kingships like Gandhāra and numerous republics as the Yaudheyas and Kshudraka-Mālavas, etc. We know it as a fact that none of those kings who ever sat on the throne of Rājagṛiha or Pāṭaliputra from Bimbisāra up to the last Nanda king dethroned by Chandragupta, ever extended his empire so far as the Vāhīka country. The Greeks under Alexander found the Nandas east of the Beas. In the Prāchya country, Pāṇini mentions Magadha, Kosala, Avanti, Kaliṅga and Sūramasa as separate States (*Janapadas*), which as stated by Kātyāyana (*vārttika* on *sūtra*, IV. 1.168) were monarchies (*Ekarāja*).

It was not yet the resounding epoch of Magadhan imperialism. Ajātaśatru as a Magadhan king, had annexed only the kingdoms of Kāśi and Kosala. It was only a passing phase. The last two rulers of this dynasty, Nandivardhana and Mahānandin, did not make any annexations. The Purāṇas state that it was only Mahāpadma Nanda who annexed the leading Kshatriya states of the time, *viz.* the Aikshvākus of Kosala, Pañchālas, Kāśis, Haihayas, Kaliṅgas, Aśmakas, Kurus, Maithilas, Śūrasenas and Vītihotras, and made himself the sole sovereign (*ekrāṭ*) or emperor. Therefore the period, when Pāṇini spoke of the kingdoms of Kuru, Kosala, Magadha, Kaliṅga, Avanti and Aśmaka, specifically as so many small monarchical states must have preceded the time of Mahāpadma Nanda, before about 400

B. C. Thus the political data of the *Ashṭādhyāyī* must relate to the epoch circa 450 to 400 B. C.

REFERENCE TO YAVANĀNI—Pāṇini's reference to Yavana and Yavanānī writing, possesses distinct value for his date. The term *Yauna* (= Skt. *Yavana*) for Ionia and the Ionian Greeks is first used in the inscriptions of Darius I (516 B. C.). It must have been after this that the term *Yavana* came into circulation in parts of India which also formed part of the Achæmenian empire. It would not be right to suppose (as Benfey, Burnell, Weber and Wackernagel have done) that the Macedonian Greeks who first came into India with Alexander about two centuries later first became known as Yavanas. In fact the Yavanas had been known much before Alexander who already found in the Kabul valley a colony of Nysian Greeks. In the Old-Persian Inscriptions of Darius (521-485 B. C.) we first find the term *Yauna* denoting Ionia and an Ionian, and *Yaunā*, Ionians, coresponding to Sanskrit *Yavanaḥ* and *Yavanāḥ* (Sukumar Sen, *Old Persian Inscriptions*, p. 223). Both Ionia and Gandhāra, the home of Pāṇini, formed part of the empire of Darius and also continued under the reign of Xerxes, who recruited to his army a contingent of Indians from Gandhāra in his expedition against Greece about the year 479 B C. Thus was furnished a firsthand opportunity for the Indians to become acquainted with the Greeks even before Alexander. As Prof. Keith has observed : 'If it is borne in mind that Pāṇini was a native of Gandhāra according to Hiuen Tsiang, a view confirmed by the references in his grammar, it will not seem far-fetched to consider that it was most probably from the older tradition that the name Yavanānī was derived' (*Aitareya Āraṇyaka*, p. 23). The word *lipi* borrowed from the Achæmenian *dipi* meaning 'edict' is conspicuous by absence in the Buddhist canonical works and seems to have been borrowed from Achæmenian Iran. It may further be assumed that the *Yavanānī lipi* was known only in Gandhāra and the north-west at that time (*ante*, p. 312).

PĀṆINI AND THE PARŚUS—Pāṇini refers to a people called Parśus as a military community (*Āyudhjīvī Saṅgha*, V. 3. 117). The term *Parśu* corresponds to the Old-Persian form *Pārsa* as given in the Behistun inscription. The Babylonian form of the name in the same Inscription is *Par-su* which comes closer to Pāṇini's *Parśu* (*Behistun Ins.*, British Museum, pp. 159-166). It appears that Parśu was the name of a country as noted in the Babylonian version, and Pārśava was a designation of an individual member of that *Saṅgha*, a form of the name which corresponds to Babylonian *Par sa-a-a*. A part of India was already a province of the Achaemenian empire under Cyrus and Darius, which it enriched with its military and material resources. Indians were already serving in the army of Xerxes and fighting his battles about 487 B.C., while that very small part of India paid as much revenue as the total revenue of the Persian empire. There was thus an intimate intercourse between north-western India and Persia, and Pāṇini as one born in that region must have had direct knowledge of such intercourse. Not only Gandhāra but also Sindhu corrupted into Persian *Hindu* in the inscriptions of Darius (corresponding to the Sind-Sagar Doab of the Western Panjab) came under the occupation of the Achaemenians at one time (cf. Hamadan Plate Ins., *J.R.A.S.*, 1926, pp. 633-6 ; *Jour. Cama Ins.*, 1927; *Memoir A.S.I.*, No. 34). (Cf. *ante*, p. 444).

Similarly, There is also the possibility that another Persian tribe came to be known in India in Pāṇini's time who refers to *Vṛikas* as an *āyudhajīvī Saṅgha*, a community that lived by the profession of arms. An individual member of this tribe was called in Sanskrit *Vārkeṇya*, a term which seems to correspond to *Varakāṇa* of the Behistun Inscription. The whole tribe was called *Vṛikāḥ*, which corresponds to the form *Varkā* in the plural number in the name *Saka-Haumavarkā* in the Naksh-i-Rustam Inscription. The Vṛikas thus appear to be a section of the war-like tribes. (Cf. *ante*, pp. 443-44).

Pāṇini notices *kanthā*-ending place-names as being common in Varṇu (Bannu valley) and the Uśīnara country between the lower course of the Chenab and Ravi, and also instances some particular names such as Chihaṇa-kantham and Maḍura-kantham, which rather appear as loan-words (*ante*, pp. 67-68). In fact *kanthā* was a Scythian word for 'town', preserved in such names as Samarkand, Khokan, Chimkent, etc.

The above data point to somewhat closer contacts between India and Persia during the reigns of the Achaemenian emperors Daruis (522-486 B.C.) and Xerxes (485-465 B.C.) as a result of their Indian conquests. This explains the use in India of such terms as *Yavana, Parśu, Vṛika, Kanthā.* To these we may add two others, *viz. jābāla* (goat-herd) and *hailihila* (poison), mentioned by Pāṇini (VI.2.38) which were really Semitic loan-wards.

This evidence points to Pāṇini's date somewhere after the time of these Achaemenian emperors.

THE KSHUDRAKA-MĀLAVAS—On account of Pāṇini's reference to the Kshudrakas and the Mālavas in the formation *Kshaudraka-Mālavī Senā* as the *gaṇa-sūtra* of *sūtra* IV. 2.45, Weber argued that this reference brings down the time his of Pāṇini (and also predecessor Āpiśali) to after Alexander's invasion which was resisted by those two Indian tribes, whom the Greek noted as *Oxydrakai* and *Malloi*. He argued that the Kshudrakas and the Mālavas had been usually at war with each other and a foreign invasion welded them to fight a common foe through a united army called *Kshaudraka-Mālavī-Senā*. These united forces, opposing Alexander are said by Curtius to have comprised 90,000 foot-soldiers, all fit for active service, together with 10,000 cavalry, and 900 war chariots *Alexander's Invasion*, p. 234).

So far as Āpiśali is concerned Weber misunderstood the text relating to *Āpiśali-vidhi* (quoted by Patañjali), which has no connection with the Kshudraka-Mālavas and is concerned only with the formation *ādhenavam.* Its purpose

was restricted to showing the prevalence of *Taluntavidhi* in the *Sāmūhika* suffixes.

Secondly, the confederate military arrangement between the Kshudrakas and the Mālavas was not a temporary make-shift, but permanent arrangement so as to find its way into current language in the phrase *Khaudraka-Mālavī Senā* as a special grammatical formation. There is therefore every likelihood that Pāṇini himself had composed the *Gaṇa-sūtra Kshudraka-Mālavāt Senā-saṁjñāyām*, on the basis of his personal knowledge of such an army. In fact the details given by the Greek writers rather indicate that this joint army had existed before Alexander and was not the outcome of any emergency. Curtius definitely states that the Kshudrakas and the Mālavas *in accordance with their custom* had selected as their head a brave warrior of the nation of the Kshudrakas who was an experienced general (*Alexander's Invasion*, p. 236). Unfortunately, at the time of giving battle to Alexander the events took a turn just opposite to what Weber would have us believe. Diodoros expressly states 'that the Kshudraka-Mālavas could not agree as to the choice of a leader and ceased in consequence to keep the field together' (*Alex. Inv.*, p. 236, f.n.). Curtius almost confirms this version of Diodoros by saying that 'overnight a dissension arose amongst them and they retired to their mountain recesses.' He goes one step further to acquaint us with the subsequent course of events saying that most of the army took shelter in the fortified city of the Kshudrakas which was besieged by Alexander, and this was followed by the most heroic resistance and the fiercest attack that the Greek army had experienced so far, in which Alexander himself received a deadly wound. Obviously after their separation from the Mālavas, the Kshudrakas bore the brunt of the battle singly. Finally, peace was negotiated on behalf of the fighters by deputing one hundred ambassadors whom the Greeks received with uncommon hospitality and honour that would be rather unusual in the case of a crushed enemy. The grammatical illustration

which Patañjali repeats thrice in the *Bhāshya* (*Ekākibhiḥ Kshudrakair-jitam, asahāyair-ityarthaḥ*, I.83 ; I.321 ; II.412) presents a true picture of the events as preserved on the Indian side, namely that the Kshundrakas were matched alone against the invaders and emerged triumphant.

It is thus certain both on the testimony of Pāṇini and the Greek writers that the league of the Kshudraka-Mālava army had been in existence long before Alexander.

The numerous *Āyudhjīvī Saṅghas* in the Panjab and North-West India point to political conditions as existed before the rise of Mauryan Imperialism. Pāṇini treats of the development of *Saṅgha* polity as if it were at it its zenith. Gradually *Saṅghas* began to decline and the march of the Greeks through their land completely exposed their political weakness. This made the *Saṅghas* unpopular and created a movement for their unification of which indications are found in Kauṭilya's *Arthaśāstra*. Pāṇini lived in the peak period of the *Saṅghas*, and an interval of about a century should be allowed for their decline against the rise of a centralised monarchy or empire. This would assign a date to Pāṇini a hundred years before the rise of Mauryan imperialism.

PĀṆINI AND KAUṬILYA—It has been argued that Kauṭilya writes a language which, though archaic in certain respects is decidedly later than the language of the *Ashṭādhyāyī* (Thieme, *Pāṇini and the Veda*, p. 80). From the foregoing studies it is apparent that the works of both authors know of many similar institutions. Sometimes the *Arthaśāstra* appears as the best commentary on Pāṇini in regard to certain specific and peculiar terms referred to by both, *e.g.* *Maireya*, *Kāpiśāyana*, *Devapatha*, *Ākranda*, *Yuktārohī*, *Upanishad*, *Vinaya*, *Parishad*, *Vishya*, *Svāgaṇika*, *Āpamityaka*, *Yāchitaka*, *Ārya-krita*, *Yaujana-śatika* *Dūta*, *Ashadakshīṇa*, *Vyushṭa*, *Vaiyushṭa* transactions, *Purusha* and *Hastī* measures, *Kedāra*, *Parīkheyī*, *Māhisha*, *Adhyaksha*, *Yukta*, *Avakraya*, etc. In the foregoing studies we have oft-times dealt

On the basis of his numismatic data Pāṇini thus belongs to the period of transition between the age of Bimbisāra and Kauṭilya, i.e. between the sixth and the fourth century B.C. A date in the fifth century B.C. admirably reconciles the coin-references of the *Ashṭādhyāyī*.

PERSONAL NAMES—The evidence of personal names current in Pāṇini's time also points to the above chronological position. The *Gotra*-names were current in the *Brāhmaṇas* and the *Upanishads*, whereas in the Maurya period two other features appeared, *viz.* contraction of personal names and star-names, i.e. personal names derived from the names of stars. The *Ashṭādhyāyī* represents a stage between the two when the *Gotra*-names and the *Nakshatra*-names were in use side by side. The *Gotra-nāma* was an old Vedic custom, whereas the *Nakshatra-nāma* was a new feature approved by the *Gṛihya-sūtras*. There is no scope for contraction in a *Gotra*-name, and so the rules of contraction detailed by Pāṇini applied to names other than *Gotra* names. In this respect the early Buddhist literature shows an equal preference for *Gotra-* and *Nakshatra*-names and is thus closer in time to Pāṇini.

PĀṆINI AND THE JĀTAKAS—In many respects Pāṇini's language is earlier than that of the *Jātakas*, but in some cases the coincidence between the two is striking and helpful for chronology. Attention may be drawn here especially to the material for mounting chariots, *viz*, *dvaipa*, *vaiyāghra* and *pāṇḍukambala*, which are mentioned in Pāṇini and the *Jātakas* (*ante*, p. 150). The expressions cited above represent older conditions, and as a matter of fact these words occur in the *Gāthā* portions of the *Jātakas* which are admittedly earlier than the prose portions. A date in the fifth century B.C. would explain the linguistic similarities between the *Ashṭādhyāyī* and the *Jātakas*.

PĀṆINI AND THE MADHYAMAPATHA—Pāṇini is always distinguished by his unique balance of judgment in

reconciling opposite views and looking at both sids of a grammatical controversy.

While examining the grammatical data of Pāṇini we have already drawn detailed attention to about half a dozen instances of this spirit of synthesis (*ante*, pp. 352-5). In such controversies as *Mahā-Sāmjñās* and *Kṛittrima-Saṁjñās*, *Jāti* and *Vyakti*, *Anukaraṇa*, *Upasarga* as *Vāchaka* and *Dyotaka*, *Dhātū* as *Kriyā* and *Bhāva*, *Vyutpatti* and *Avyutpatti* of words, etc., Pāṇini's position is not exclusive, but reconciles the two extremes. In this respect Pāṇini's work can be said to be a true product of its age, the epoch of *Majjhima Paṭipadā*, the best representative of which was another master-mind, the Buddha himself. Those who accepted the path of the golden mean as the ideal course to follow avoided insistence on extreme views, and we actually find Pāṇini avoiding the mistakes of his predecessors like Śākaṭāyana who over-emphasized the verbal derivation of all nouns. Pāṇini presents his material throughout the *Ashṭādhyāyī* with an all-comprehensive outlook and synthesis which made his work so popular and acceptable.

SUMMARY—We may now summarise these considerations. The various dates assigned by scholars to Pāṇini range from the seventh to the fourth century B.C. The majority of scholars are inclined towards the fifth and the fourth century B.C. The view taken in this work is that a date nearer the fifth century B.C. appears more probable on the basis of the available data. It takes Pāṇini to be a contemporary of the Nanda king named Mahānanda and thus assigns him to the middle of the fifth century B.C.

The literary argument offers a corrective to the extreme views of Goldstücker about the types of literature and literary works known to Pāṇini. Weber's argument for a date after Alexander's invasion based on references to Yavanānī script and to the confederated army of the Kshudraka-Mālavas has been duly answered. Sir R. G. Bhandārkar's

argument based on Pāṇini's supposed ignorance of the south has also been largely met by the fact that Pāṇini's geographical horizon extended from Kamboja (Pamir) to Aśmaka on the Godāvarī, and from Sauvīra (Sind) in the west to Kaliṅga and Sūramasa (Sūrmā valley of Assam) in the east, and also included that part of South India which lies within the tropics (VIII. 4.25) and also some islands situated in mid-ocean.

The references to such specifically Buddhist terms as *Maskarī*, *Kumārī-Śramaṇā* (maiden nuns), *Nikāya* and *Nirvāṇa*, suggest that Pāṇini came after the Buddha.

The argument from numismatic data and the nature of current personal names given in the *Ashṭādhyāyī* points in the direction that Pāṇini lived in the same cultural epoch as produced the earliest Pali canon.

Moreover, the striking resemlance of several technical terms between Pāṇini and Kauṭilya, indicates that Pāṇini preceded Kauṭilya but was not far removed from his time.

The astronomical argument is based on the fact that in the list of ten star-names given in *sūtra* IV. 3.34 Śravishṭhā begins the list. This points to the astronomical reckoning of the Vedāṅga Jyotisha in which Śravishṭhā was the first of the *nakshatras*. This position of Śravishṭhā continued from B. C. 1372 to about 401 B. C., *i. e.* the close of the fifth century B. C. After this the asterism of Śravaṇa was taken to commence the star-list. This gives us definite lower limit for Pāṇini's time.

The concensus of this varied evidence is in favour of assigning to Pāṇini a date about the middle of the fifth century B. C. This chronological pointer available for the *Ashṭādhyāyī* and its distinguished author is somewhat singular in comparison to what we possess for so many other works and master-minds in the literary history of ancient India.

APPENDIX I

JANAPADA AND THE GREEK CITY-STATE

JANAPADA ANALOGOUS TO CITY-STATE—The *Charaṇa*, *Gotra* and *Janapada* are three typical Pāṇinian institutions of educational, social and political life respectively. It is not without significance that the term *Janapada* is conspicuous by absence in the Vedic Saṁhitās. It occurs only in the last phase of the Brāhmaṇa period, and found its full development in the period of the *Ashṭādhyāyī*. A comparative study of human societies affords innumerable analogies, and we find unmistakable parallels between the *Janapada* State in India and the City-State in Greece. Both flourished at about the same period. In Greece a large number of City-States represented so many isolated communities, which were self-contained and had their own systems of government, but all of them had very similar social and religious customs and institutions. A few like Athens and Sparta were more important than others.

JANAPADAS IN INDIA—In India the number of *Janapada* States was quite large. Pāṇini gives a rich picture of *Janapadas* extending from Kamboja to Aśmaka and Sauvīra to Sūramasa, of which the geographical aspect has been dealt with in Chapter II and illustrated in the accompanying maps. The *Janapada* experiment in India was on a much larger scale than in the case of Greek city-states with regard to their extension both in place and time. The fuller lists of Indian *Janapadas* containing about 175 names, are preserved in the Bhuvanakosha chapters of the *Purāṇas* (*Vāyu*, ch. 45; *Matsya*, ch. 114; *Mārkaṇḍeya*, ch. 57: *Brahmāṇḍa*, ch. 49; *Vāmana*, ch. 13; cf. D. C. Sircar, Text of the Puranic List of Peoples, *I. H. Q.*, XXX, 1945, pp. 297-314). Almost all *Janapada* names in

Pāṇini are traceable to that list. The territorial divisions envisaged there are (1) Madhya, (2) Prāchya, (3) Udīchya, (4) Dakshiṇāpatha, (5) Aparānta, (6) Vindhyapṛishṭha, and (7) Parvata, and the Janapada names are grouped accordingly, which affords a clear picture of the States spread in all parts of the country. The *Parvatāśrayin Janapadas* of the *Purāṇas* find pointed mention in Pāṇini as *āyudha-jīvins* of the Parvata country (IV.3.91), i.e., military high-landers settled in the north-west of India and in the Trigarta country, as explained above (*ante*, pp. 434-6).

BOUNDARIES—In Greece the city-states were scattered mostly amongst hills and valleys and separated by well-defined boundaries. In India also the *Janapadas* had demarcated boundaries to which Pāṇini refers as *tadavadhi* (IV.2.124). The *Kaśikā* observes that other *Janapadas* formed boundaries of a *Janapada* surrounding it on all sides (*tad-avadhirapi janapada eva gṛihyate*). A chain of *Janapadas* occupied the entire stretch of land, and some of them were big enough to admit of several territorrial divisions of which the names are regulated by *sūtras* VI.2.103 and VII.3.12; *e. g.*, the Sindhu divided Pūrva-Gandhāra with capital at Takshaśilā from Apara-Gandhāra with its chief town Pushkalāvatī; similarly Pūrva-Madra, Apara-Madra, and Pūrva-Pañchāla, Uttara-Pañchāla, and Dakshiṇa-Pañchāla.

ACROPOLIS—But it is more in the development of the *Janapada* State through the ages that we find a striking parallel with the Greek City-State. The *polis* or the city was the nerve-centre of the City-State, and it was opposed to the open village. The "fluid" term *polis* signified the acropolis or the fortified town. In India also each *Janapada* had its fortified town or capital. An interesting list of sixteen *Mahājanapadas* with their names of capitals is well-known in the Buddhist texts, and similarly twenty-five *Janapadas* in the Jaina literature together with names of their capitals.

EVOLUTION OF THE CITY-STATE AND THE JANAPADA—In the evolution of the City-State there were four well-defined stages known as Genos, Phratries, Phulai and Polis. The *polis* grew out of small beginnings, 'from the clan—the *genos*, the patriarchal clan, "the first unit of society"—and passes through the associations of families, the phratries, and the military groupings of clans, the *phulai* tribes, to the political organism which grew out of a settled life and synœcism' (Glotz, *The Greek City and Its Institutions*, Foreword by Henri Berr, p. ix).

The last mentioned political organism was the City-State. The analogy holds true in the case of the evolution of the *Janapada* State in India, which had its humble beginnings in the clan or *Jana*; the *Jana* developed a number of individual units called families or *Kula*, and the associations of families formed the ruling Kshatriya tribes which weilded political power and are termed *Janapadins* in Pāṇini (IV.3.100). The *Janapadins* were, according to the *Kāśikā*, the ruling class in the *Janapada* (*Janapada-svāminaḥ kshatriyāḥ*). This was the stage when the *Janapada* State emerged in its full-fledged development. The correspondence of the *Janapada* and the City-State may be set forth below :

I. Clan [*Genos*] *Jana*.
II. Families [*Phratries*] *Kula*.
III. Tribes [*Phulai*] *Janapadinaḥ*.
IV. City [*Polis*] *Janapada*.

ABHIJANA—We can now see why in the whole of the Vedic literature there is no reference to the *Janapada* institution, whereas the *Jana* finds repeated mention. The Bharata *Jana* tracing itself to a common ancestor was a compact clan. It must have expanded and the outcome was the increasing importance of independent families or *Kulas*, which ultimately developed into *Gotras* and *Vaṁśas*. The clan was not yet settled in any particular area, but with the growth of independent families it tended to lose its mobility and ultimately the tribe or *Jana* came to be tied down to an abode, called *Abhijana* in Pāṇini (IV.3.90),

literally 'the region that had come under the "land-taking" of a *Jana*'.

JANAPADIN—The territory of the *Jana* became the *Janapada*, whence the original settlers who formed the governing class were called *Janapadins*. In the *Janapada* there came to live also other peoples or aliens who were distinguished from the privileged class of rulers or *Janapadins* proper. The latter were consecrated to rulership and designated as *abhishikta vaṁśya*. In *sūtra* VI.2 34, Pāṇini refers to the *Rājanyas* of the Andhaka-Vrishṇi *Saṅgha*, and, as clearly stated by the *Kāśikā*, the consecrated Kshatriyas of that confederacy formed the object of the grammatical rule. The evidence of the Lichchhavis of the Vṛiji *Janapada* is well-known; the waters of their *maṅgala-pushkariṇī* were used for the consecration of 7,707 *Rājans* and were closely guarded against others. It is, however, clear that in its later stages the *Janapada*, irrespective of the fact whether it was republican (more strictly oligarchical as in Greece) or monarchical (i.e. *gaṇādhīna* or *ekarāja*, IV.1. 168, *vārt.*) consisted of a very mixed population. Patañjali explicitly says that members of the ruling Kshatriya class in the Mālava republic were called Mālavya, and in the Kshudraka Kshaudrakya, but the slaves and free labourers amongst them were excluded from its application.[1] In practice the name of the ruler in a monarchical state and the name of the Kshatriya members who constituted the privileged aristocracy (called *apatya*) were both derived from the name of the *Janapada* (*Kshatriya-samāna-śabdāj-janapadāt tasya rājanya-apatyavat*, *vārt.* on IV.1.168). Thus the king of Pañchāla and a Kshatriya descendant of Pañchāla were both called Pāñchāla.

JANAPADA, A CULTURAL UNIT—The stages of evolution from *Jana* to *Janapada* have yet to be clearly formulated

[1] इदं तर्हि क्षौद्रकाणामपत्यम् मालवानामपत्यमिति। अत्रापि क्षौद्रक्यः मालव्य इति नैतत्तेषां दासे वा भवति कर्मकरे वा। किं तर्हि। तेषामेव कस्मिंश्चित्।
(Bhāshya, IV. 1. 168, II. 269).

and studied on the basis of literary evidence which is extensive. The *Atharvaveda* speaks of small homogeneous communities of people differentiated from one another (*bahudhā janam*), speaking different tongues (*vivāchasan*) and following diverse faiths (*nānā-dharmāṇam*, Pṛithivī Sūkta, XII.1.45). Soon new factors operated leading to the discovery of fresh centres of population and development of new routes, towns and professions depending on internal trade and commerce. All this contributed to the growth of regional consciousness and the emergence of the *Janapada* life. The *Janapada* was not merely a geogrphical term. It was more of a social, cultural and political phenomenon that found cumulative expression in the *Janapada*. Each State was free to choose its form of government—a state of circumstances envisaged in such expressions as *eka-kṛitāḥ* (i.e., *ekādhīna* or *rājādhīna*), *śreṇi-kṛitāḥ*, *pūga-kṛitāḥ* (II.1.59); each was sovereign and independent so long as its freedom was respected by the neighbouring states; each was free to follow its intellectual and cultural life; each had its own language and local gods. The Buddha permitted the spread of his teachings in the local dialect of each *Janapada* and also drew attention to the continued worship of the traditional *chaityas* and deities. In the Greek cities close connection existed in the beginning between political organisation and religion. 'Every city had its deity as had every family (*Glotz.*, op. cit., p. 19). In India homage to the traditional *chaityas* and deties, such as Yakshas and Nāgas, was obligatory on all persons in the community, but with the emergence of new faiths like Buddhism and the Bhāgavata religion, the religious tie became less rigid and the "cultus" of the clan came to be replaced by a personal religion. The grammatical literature points to instances of linguistic peculiarities of *Janapadas*, e.g., of Kamboja, Surāshṭra and Prāchya (*Bhāshya*, I. 9). Pāṇini refers to the particular domestic culture prevailing in the Kuru Janapada for which the linguistic expression *Kuru-gārhapatam* (VI.2.42) had become current. We have already drawn attention to its import. Kātyāyana adds to

it *Vṛiji-gārhapatam*, which perhaps refers to the system of family government prevailing amongst the Lichchhavis. The *Mahābhārata* referring to the *Kula* system of polity mentions its two salient features; firstly there was a *Rājā* in each household (*grihe grihe hi rājānah*, Sabhāparva, 14.2); and secondly in the *Kula* polity some one became supreme at one time, and somebody else at another (Sabhā., 14.6). This refers to periodical election to the headship of the oligarchical State; the system was called *Pārameshṭhya* (ib., 14.5). It is also stated that in the Vṛiji *Janapada* the social life of its citizens was regulated by the *Gaṇa* in certain matters such as marriage. The general rule was that no marriage should be contracted outside Vaiśālī and even outside its districts. The Śākyas also were very fastidious about the purity of their blood. Similar care in the matter was taken by citizens in Greek city-states.

FORMS OF GOVERNMENT—The Janapada states in India had different systems of government just as the city-states in Greece. Pāṇini refers to several of them, e.g. *Gaṇa* or *Saṅgha*, *Avayavas* (IV.1.71) or member states of a Union, Leagues or Confederacies as in the case of *Trigarta-Shashṭha* (V.3.116), *Rājanyas* (VI.2.34), *Dvandva* or *Vyut-kramaṇa* (VIII.1.15) *i.e.*, Party System, *Janapadins*, *Abhi-shikta-Vaṁśya Kshatriyas*, *Pūga*, *Śreṇi*, *Grāmaṇī*, *Vrātas*, *Kumāra-Pūga*, (VI.2.88), *Parishadvala Rājā* (V.2.112) *Saṁdhi-miśra Rājā* (VI.2.154), *Āyudhajīvins* and *Parvatīyas* (V.3.91; IV.2.143), etc. The political significance of these terms has been explained in their proper places. Just as bands of mercenary armed soldiers existed in many *Āyudha-jīvī Saṅghas*, similarly they existed in Greece and many were enlisted in Alexander's army recruited from the Greek cities and the highlands in Thrace. The code of honour with these fighters also offers scope for comparative study.

COMMON ANCESTRY—The city-states were formed of small communities of men who generally traced themselves to a common ancestry. The same fiction prevailed in the *Janapadas* in which the entire Kshatriya class of the

Janapadins believed themselves to have descended from an original founder who was almost deified. So long the clan was compact this memory of a common forefather was rooted in truth. For example, the Sāvitrīputrakas mentioned by Pāṇini in the *Gaṇa-pāṭha* to V.3.116 (*Dāmanyādi*) formed a clan consisting of one hundred 'sons', all descended from Sāvitrī and Satyavān (*Sāvitryāḥ...tad vai putraśataṁ jajñe*, Āraṇyaka., 28.3.12). '*Putra*' in such cases certainly means 'descendant' and 'one hundred' was an indefinite number. They all bore the title of *Rājā* and all were Kshatriyas, each family in turn multiplying through its sons and grandsons (*te chāpi sarve rājānaḥ kshatriyāḥ putra-pautriṇaḥ*, Karṇa., 4.47). But such a claim for the whole tribe could only be a fiction, maintained seriously through generations. In many cases the names of eponymouse founders of the *Janapadas* were invented, e.g. Aṅga, Vaṅga, Kaliṅga, Suhma and Puṇḍra are stated to be the five sons of Dīrghatamas, and each the founder of a *Janapada* (Ādi., 98.32).

JANAPADA CULTURE—The city-state transformed the mental, social, religious and political outlook of the Greeks leading to an unparalleled flowering of the national genius as was seldom seen in world history. The religious and philosophical contributions of the citizens in the *Janapadas* constitute brilliant chapters in the history of Indian thought. The intellectual and metaphysical ferment during the *Janapada* period is well reflected in the Pali and Ardha-Māgadhī literatures and some of the sublime dialogues recorded in the Śāntiparvan are like the Brahmajāla-sutta of Sanskrit literature and bear witness to the moral and intellectual upheaval in the *Janapadas*. In one respect the change was all too marked, even for India, and it was the gradual secularisation of education and learning which were previously subservient to the Vedic *Charaṇas*. The foundations of most of the scientific and philosophical systems of India were laid in this period. As has been shown in detail, a mass of literature known to Pāṇini had

been developed outside the aegis of the Vedic schools, grammar itself being such a subject cultivated by independent master-minds who were a glory to their *Janapadas*. It is stated for the Greek city-state that Homeric education there was replaced by a type of education which took its colour and shape from the practical and economic needs of the new city. The fact has its exact parallel in the Indian *Janapada*, where new factors brought into being a new ideal of education serving the needs of trade and economic life. Art and industry were for the first time accorded a place of honour. Yāska had noted this significant change:

यथा जानपदीषु विद्यातः पुरुषविशेषो भवति ।

'Proficiency in the arts required by the life of the *Janapada* confers on persons a title to distinction' (*Nirukta*, I.1.5). Pāṇini explains these *Jānapadīs* as so many *vṛittis* (IV.4.42), i.e. skilled arts and professions devoted to producing the necessaries of life. The Pali literature and Pāṇini record a number of such *Śilpas* flourishing with bee-hive activity in the *Janapadas*.

CITIZENSHIP—Citizens of a common Janapada were known as *Sa-janapada* (VI.3.85), a term having the same importance as *Sa-brahmachārī* in the case of the *Charaṇa* institution to designate all its students (VI.3.86). The *Charaṇa* appellation, the *Janapada* appellation and the *Gotra* appellation—these three were important distinctions of an individual in the *Janapada* period.

LOYALTY (BHAKTI)—Loyalty of the citizen to his *polis* and to its laws and rulers was the hall-mark of Greek life and counted as one of its cardinal virtues. Its noblest expression is found in the life of Socrates himself: "As to his parents and his master, so to the laws and his country, he must not return injury for injury, nor blow for blow. Country is more than a mother: for her sake all things must be endured," (Glotz, *op. cit.* p. 140). The *Janapada* State was for the citizen his mother—*Mātā bhūmiḥputro aham*

pṛithivyāḥ (*Atharva*, XII. 1.12)—and the *Janapada Dharmas* or its laws must receive his complete loyalty. Pāṇini designates it as *Bhakti*, *i. e.*, the political and moral allegiance of the citizen both to the *Janapada* and its *Janapadins* (IV. 3.100). A citizen of the Aṅga *Janapada* was called *Āṅgaka* with reference to his *Bhakti* to the Aṅga State; and similarly to the Aṅga Kshatriyas, the *abhishiktavaṁśya* rulers of that *Janapada* of which the citizen was himself an integral part. The two-fold *Bhakti* is here significantly distinguished, *viz.* to the State in theory and to its government in practical life.

LAW (*DHARMA*)—The new conception of law in the city-state was inspired by religious respect and marked by moral grandeur considered to be of divine origin. It is almost identical with the new interpretation of *Dharma* given to it in the *Mahābhārata* :

नमो धर्माय महते धर्मो धारयति प्रजाः । (Udyoga., 137.9).

It is not the place to enter into details about the new ethico-social meaning of *Dharma*, but it is clearly intended by Pāṇini in such a term as *Dhārmika*, *Dharmaṁ charati*, (IV. 4.41), where *charati* is explained as *āsevā*, habitual moral conduct or practice of virtue, and *Dharmya*, that which is righteous, just, virtuous, moral and accordant with social and universal law (*Dharmād-anapeta*, IV. 4.92). *Dharma* at once denoted both justice and virtue. The ideal of the *Janapada* State was the highest development of virtue and its object was to produce the perfect citizen. This ideal is embodied in the famous words of king Aśvapati of Kekaya which he uttered in the presence of such citizens as were householders possessing magnificent mansions (*mahāśāla*), supplied with all the luxuries that *Janapada* life would provide, but who still chose the path of virtue and learning (*mahāśrotriya*) :

'Within my realm (*Janapada*) there is no thief,
No miser, nor a drinking man,

None altarless, none ignorant,
No man unchaste, no wife unchaste.'
(Chhāndogya Up., V. 11.5)[1]

Reason was cultivated as the ideal of individual perfection in the city-state, and we find a similar ideal embodied in the new word *Prajñā*, which is explained in several discourses of the *Mahābhārata*, the *Vidura-nīti* being a summary of those ideals of virtue and common-sense which were cultivated by the *Janapada* citizens. The rulers also must be *Prājña* (Śānti, 67.27). The sum total of all virtues and of the legal, social and moral ordinances which geverned the life of the citizens and the *Janapada* polity was called *Vainayika*, to which both Pāṇini (V. 4.34) and the Śāntiparva (68.4) refer. The *Vainayika* functions of the *Janapada* state are described at length in the *Mahābhārata* in a chapter with the epic strain '*Yadi rājā na pālayet*' (Śānti., 68.1-61).

DEFENCE (*Gupti*)—The defence of the city-state was of the utmost concern to its rulers as well as to the citizens. 'The people ought to fight for the laws as for the walls of its city," said Heraclitus (Glotz, *op. cit.*, p. 139). The *Mahābhārata* discusses in detail the defence of the *Janapada* (*kathaṁ rakshyo janapadaḥ*, Śānti, 69.1) and lays great stress on *Gupti* or the military preparedness of the fortified city and its citizens. It refers to *parikhā*, *prākāra*, ect. as parts of that defensive system which Pāṇini also mentions. The evidence in the epic is naturally more elaborate, mentioning a full contingent of military and civil institutions needed for the defence of the realm, e. g. *durga*, *gulma*, *nagara*, *pura*, *śākhā-nagara*, *ārāma*, *udyāna*, *nagaropavana*, *āpaṇa*, *vihāra*, *sabhā*, *āvasatha*, *chatvara*, *rāshṭra*, *balamukhyas*, *sasyābhihāra*, *saṁkrama*, *prakaṇṭhī*, *ākāśa-jananī*, *kaḍaṅga-dvāraka*, *dvāras*, *śataghnī*, *bhāṇḍāgara*, *āyudhāgāra*, *dhānyāgāra*, *aśvāgāra*,

1. न मे स्तेनो जनपदे न कदर्यो न मद्यपः।
नानाहिताग्निर्नाविद्वान् न स्वैरी स्वैरिणी कुतः॥

gajāgāra, balādhikaraṇa, all leading to the complete defence of the *Janapada* and its *pura* (Śānti, 69.1-71). We are told by the Greek historians of Alexander how the impregnable nature of the defences of the Massaga and Aornos forts (Maśakāvatī and Varaṇā) helped the heroic Āsvakāyanas of Gandhāra in offering resistance to the invaders.

ASSEMBLY AND COUNCIL—Each *Janapada*, whether a kingly state or a *Saṅgha*, had its assembly (*Sabhā*) and a governing council (*Parishad*). In order to become a member of the Assembly the Greek citizen was required to have attained the age of eighteen years when he was enrolled on the register of the deme, but since usually two years of military service had first to be done, it was seldom that a man appeared in the Assembly before he was twenty. Pāṇini also refers to the qualification of a citizen to become a member of the *Sabhā* whence he was called *Sabhya*, having become privileged to be enrolled as a member and attend the meeting of the *Sabhā* (*Sabhāyā yaḥ*, IV. 4.105; *Sabhāyāṁ sādhuḥ*, where *sādhu* specially means *yogya*, qualified). A Kshatriya young man, when eighteen years of age acquired the privilege of becoming a *kavacha-hara* (cf. *Vayasi cha*, III. 2.10, *kavachaharaḥ kshatriya-kumāraḥ*), 'fit for military duty', and at the age of twenty-one became privileged for all political rights and duties. The new word *Sabhya* was equivalent in meaning to the Vedic *Sabheya* which Pāṇini records as an old Chhāndasa term (IV. 4.106). *Sabhā* had a two-fold meaning, i.e. the assembly and the assembly-hall (*Śālā*, II. 4.23-24).

In the ancient democracies of Greece which did not know the representative system, politics was for the mass of the citizens a regular preoccupation, a constant duty (Glotz, *ib.*, p. 175). There were 42,000 citizens of Athens in 431 B.C., all did not attend and rarely were more than 2,000 or 3,000 citizens seen on the Pnyx. Certain resolutions were supposed to be taken by the "entire people"; actually, in these cases, 6,000 votes constituted a quorum (Glotz, *ib.*, p. 153). We do not have many details of such matters for

the *Sabhā* in the Indian *Janapadas*. But we are told that there were 60,000 Kshatriyas in the capital of the Ceta State, all of whom were styled *rājāno* (*Jāt*, VI. 511). It at least means that they were all citizens entitled to the membership of their *Sabhā*. Amongst the Lichchhāvis there were 7,707 *rājāno*. No information is available about the quorum in the *Sabhā*, but in one instance the number of the Deva-jana i. e., the Deva host functioning as the *Jana* is stated to be 6,000 (*shaṭ-sāhasrāḥ*, *Atharva.*, XI. 5.2), and again as 3,000 (*Bṛih. Up.*, III. 9.1). The former seems to refer to the quorum of the *Jana* as a whole, and the latter to the *Pṛithag-Devāḥ* (*Atharva*, XI. 5.2.) *i. e.*, the approximate number of members individually attending their *Sabhā*. These numbers, obviously lacking any other reasonable explanation, seem to have been taken from the procedure as it prevailed in the *Janapada* assemblies of men. The Vṛishṇyandhaka heroes assembled in a body in an emergent meeting of their *Sabhā* are actually compared to the gods seated in the Sudharmā hall (Ādi., 212.15). Elaborate seating arrangements were made for the members (*ib.*, 212.13-14).

The *Sabhā* must have held regular sessions on fixed days, and also emergent meetings convened to consider unforeseen events, as for example, the abduction of Subhadrā by Arjuna. Under the stress of public events, when there was urgent necessity, the Sabhāpāla officer convened an assembly of panic and tumult, summoning the citizens of the town by sounding the war drum (*sānnādhikī bherī*, Ādi, 212.11).

The *Sabhā* as an institution existed both in the *ekarāja* states and the *gaṇas*. In the former it was named after the name of the king (II. 4.23), as *Chandragupta-sabhā*.

SYMPOLITIES—Under pressure of political events, neighbouring and kindred cities or groups of people united in larger communities. This led to confederations of

the most diverse nature. Union was accomplished in all cases by the adoption of a common constitution. This was given the name of sympolity in the Greek city-states. The sympolities which are known to us present so many forms, so many gradations, that it is often puzzling to know how to define them, or one hesitates for the appropriate name. Almost the same political phenomena prevailed in the case of the *Janapada* states in the time of Pāṇini. He seems to have surveyed these diverse sympolities and arranged the different political terms in the *sūtra Śreṇyādayaḥ kṛitādibhiḥ* (II.1.59). The first three terms *Śreṇi*, *Eka* and *Pūga* have reference to three types of states, the diverse nature of their constitutional modifications being indicated by words in the *Kṛitādi gaṇa*. The constitutional variety and gradation may be set forth as follows for the *Śreṇi* :

1. *Śreṇi-kṛita*, formed or organised into a *Śreṇi* under external pressure of events.
2. *Śreṇi-mita*, groups of people, with a *śreṇi* constitution to a limited extent only.
3. *Śreṇi-mata*, united with the approval of the constituent groups, each of the confederating units retaining the status of a *śreṇi*.
4. *Śreṇi-bhūta*, fully welded or confederated as one *śreṇi*, with the spontaneous urge of members.
5. *Śreṇi-ukta*, having only the formal designation of a *śreṇi*, otherwise retaining the independence of each group in the union.
6. *Śreṇi-samājñāta*, probably similar to an administration in which only a few officials like magistrates, *mahattaras*, were accepted in common by the contracting parties to the union.
7. *Śreṇi-samāmnāta*, a union as *śreṇi*, in which a common constitution was adopted by several *Janapadas* by incorporating some parts of one with some of the other.

8. *Śreṇi-samākhyāta*, completely and fully merged or brought into a common relationship with one another.
9. *Śreṇi-sambhāvita*, welded as a unit by the mingling or transference of populations, perhaps akin to synœcism in the city-states.
10. *Śreṇi-avadhārita*, *śreṇis* forming unions in only a limited or restricted manner.
11. *Śreṇi-nirākṛita*, *śreṇi* that had seceded from the union or hegemony of states to which it formerly belonged.
12. *Śreṇi-avakalpita*, a state that was ripe to form a union by virtue of its strength of arms.
13. *Śreṇi-upakṛita*, a smaller state becoming a partner with a bigger *Janapada* and earning some advantage for it by this deal.
14. *Śreṇi upākṛita*, brought near or driven to form a union as a reaction to the menacing growth of some neighbouring state.

We may have two more groups of similar terms for *Pūga* and *Eka* forms of government.[1]

The word-meanings given to the various terms of the *gaṇa Kṛitādi* are more or less hypothetical and the determining of precise political significance must await further clarification. This much, however, is indicated that they refer to political unions or constitutional forms

१ पूग-कृत, पूग-मित, पूग-मत, पूग-भूत, पूग-उक्त, पूग-समाज्ञात, पूग-समाम्नात, पूग-समाख्यात, पूग-सम्भावित, पूग-अवधारित, पूग-निराकृत, पूग-अवकल्पित, पूग-उपकृत, पूग-उपाकृत ।

एक—एक-कृत, एक-मित, एक-मत, एक-भूत, एक-उक्त, एक-समाज्ञात, एक-समाम्नात, एक-समाख्यात, एक-सम्भावित, एक-अवधारित, एक-निराकृत, एक-अवकल्पित, एक-उपकृत, एक-उपाकृत ।

of diverse nature and extent, by which new states were created out of old ones, embracing new groups, losing some part of their autonomy, or effacing their frontiers to form into bigger unions, or organising into military bands (*pūgas*) of varying *camaraderie* and cohesion.

AVAYAVAS—Pāṇini refers to this term in *sūtra* IV.1.173; its meaning cannot be said to be beyond doubt. The *Kāśikā* mentions six *Avayavas* of the Sālva state, viz., Udumbara, Tilakhala, Madrakāra, Yugandhara, Bhuliṅga, and Śaradaṇḍa, to which Patañjali adds three more, *viz.*, Ajamīḍha, Ajakranda and Budha (*Bhāshya*, II. 269). Their territories were far flung over Rajputana and the Panjab without any geographical contiguity. It seems that the *Avayavas* were Sālva citizens who were detached from the main body and quartered on other *Janapadas* as an occupying colony where they enjoyed all the privileges of the new state, but at the same time considered themselves to be part and parcel (*avayava*) of the parent state of the Sālva Kshatriyas. Thus they were "the Sālva people of Udumbara," "the Sālva people of Tilakhala," etc., but constitutionally a section of the Sālva *Janapada*. Such a system was known in Athenian democracy where the *cleruchs* (persons sent out from Athens as occupation forces) were quartered in thousands on the soil of other cities, and were designated as "the Athenian people of Imbros," "the Athenian people dwelling in Scyros," etc. (Glotz. *ib.* p. 282).

APPENDIX II

A CRITICAL TEXT OF THE GEOGRAPHICAL GAṆAS

The material of place-names in the *Ashṭādhyāyī* has been discussed above (pp. 34-74, 434-454). It is proposed to present here a critical text of the *Gaṇa-pāṭha* relating to place-names (*ante*, p. 72). A study of the comparative material of the *Gaṇas* in other grammatical systems shows beyond doubt that the basis of the Pāṇinian *Gaṇa-pāṭha* is sound and that its text was adopted in the subsequent systems and preserved in so many recensions for about a thousand years with tolerable textual purity.

The critical text of the geographical *Gaṇas* is here presented on the basis of the following material :

1. *Kāśikā*, Kashi edition of Balashastri, 1928.
2. *Chandra Vyākaraṇa* with its own *Vṛitti* which has preserved quite a substantial portion of the Pāṇinian *Gaṇa-pāṭha* (c. 453 A. D.) ; available in the excellent edition by Dr. Liebich.
3. *Jainendra Vyākaraṇa* of Pūjyapāda Devanandi (c. 550-600 A.D.), of which the *Gaṇa-pāṭha* is preserved in the *Mahāvṛitti* of Abhayanandi. A complete transcription from several manuscripts was made available by the Bharatiya Jñānapīṭha of Kashi.
4. *Jaina Śākaṭāyana Vyākaraṇa* of Pālyakīrti, a contemporary of king Amoghavarsha (817-877) ; the commentary *Amoghavṛitti* of the author is a voluminous work so far unpublished, but was accessible to me in a Devanāgarī transcript based on a Kannaḍa palm-leaf Ms. by the courtesy of the Syādvāda Vidyālaya, Kāshi.

5. *Sarasvatīkaṇṭhābharaṇa* of Bhoja (c. 1018-1053 A.D.) [edited by T. R. Chintamani, Madras University Skt. Series].
6. *Siddhahaimaśabdānuśāsana* of Hemachandra (1088-1172), with his own *Bṛihad-vṛitti* (c. 1130 A.D.).
7. *Gaṇaratnamahodadhi* of Vardhamāna (1140 A.D.) Critical editions of the above, except 7 by Eggeling, are wanting, and should in course of time be undertaken. It would then be possible to effect further improvements in the collated text.

The statistical results of the reconstituted text are interesting :

1.	Janapada Names	...	35
2.	Vishaya Names	...	43
3.	Saṅgha Names	...	33
	Total	...	111

4. Towns and Villages		*Constituted Text*	*Böhtlingk's edition*
(*a*) (*i*) 6 Chāturarthika *gaṇas*	...	109	189
(*ii*) 17 Chāturarthika *gaṇas* in *sūtra* IV.2.80	...	228	430
(*b*) 6 Śaishika *gaṇas*	...	123	194
(*c*) Abhijana place-names, 2 *gaṇas*	...	21	23
(*d*) Prastha-ending names, 2 *gaṇas*	...	16	16
(*e*) Kanthā-ending names, 1 *gaṇa*	...	7	7
Total	...	504	859

The total number of place-names in the 17 *gaṇas* of *sūtra* IV.2.80 as listed in Böhtlingk's edition of the *Ashṭādhyāyī* (Leipzig, 1887),* and generally in the printed editions of the *Kāśikā* is 430, which in reconstituted text is

* The text of the *Gaṇa-pāṭha* as printed in the *Word-Index to Pāṇini-Sūtra-Pāṭha and Pariśishṭas*, by Pathak and Chitrao (Bhandarkar Oriental Institute, Poona, 1935), closely follows that of Böhtlingk.

reduced to 228. We had in arriving at our text tabulated in parallel columns the names as found in the six grammatical systems under purview and also the *Gaṇaratnamahodadhi*; the unauthentic or spurious words as well as the later accretions themselves sprang into relief and were eliminated and relegated to footnote, as Variants and Additions. It is now proposed to subject the entire *Gaṇapāṭha* to a similar critical collation and present the results in a separate volume with requisite details, including the equally important material of the Gotra lists which have been left over from the present study.

The number of names in the 34 *gaṇas* under Chāturarthika, Śaishika and Abhijana suffixes and Prastha-and Kanthā-ending names is 504 in the collated text as against 859 of the *Gaṇa-pāṭha* printed in Böhtlingk's edition, or what may be called the Vulgate text of the *Gaṇa-pāṭha*.

The general soundness of the collated text can be demonstrated by the fact that the number 500 is just what has been mentioned by the Greek writers as the number of cities between the Jhelum and the Beas (*ante*, p. 73), or the Vāhīka region of Pāṇini. A city is defined as a town with a population of 10,000 and over. In the limited area between the upper courses of the Jhelum, the Chenab and the Ravi there were as many as thirty-seven cities, with a minimum population of 5,000 inhabitants, while many contained upwards of 10,000. Megasthenes wrote about the cities of Mauryan India that their 'number is so great that it cannot be stated with precision' (M' Crindle, *Megasthenes and Arrian*, p. 209). The significance of these figures may be better understood if we remember that in the undivided India of 1941 there were only 57 cities, the number increasing to 75 in 1951. On the other hand in France 455 towns, besides Paris, have more than 9,000 inhabitants.

The printed editions of the *Gaṇa-pāṭha* led to the statement (*ante*, p. 74) that the two *gaṇas*, *Saṁkalādi* (IV.2.75), *Arīhaṇādi etc.*, (IV.2.80) alone give about 500 names. The

correct figure in the collated text of these two *sūtras* is only 260. However, the grand figure of 500 recorded by the Greek geographers of Alexander's campaign now finds solid support from the *Ashṭādhyāyī* presenting us with an exhaustive list of the important towns and villages of north-west India. The agreement between these two figures shows the perfection of Pāṇini's method in surveying his linguistic data. The great teacher, in the words of Yuan Chwang, wandered about asking for knowledge and collected a multitude of words. During the course of his fact-finding mission he seems to have omitted nothing of value, and also evolved a simple and clear scheme of classification by which this vest and complex material of geographical names was reduced to order and made an integral part of his grammar.

There now remains the task of identifying the mass of these names. The names of castes and sub-castes and family surnames in the Panjab offer an attractive field, since they are mostly derived from names of places which were once their home-towns (*nivāsa* and *abhijana*). The human and linguistic material of Pāṇini's time cannot have totally disappeared; its survival in a changed form is the only natural process of evolution. For example, Saharāliye, a sub-caste of the Agrawala community in the Panjab, trace their original seat to Saharālā in Ludhiana Dist., and these may be connected with Pāṇini's Sarālaka (Takshaśilādi, IV. 3.93) and its derivative Sārālaka. Similarly Batrā, a sub-caste of the Khattris, points of Vātraka (Rājanyādi, IV. 2.53); Chope, a sub-caste of the Aroras, to Chaupayata (Bhaurikyādi, IV. 2.54); Balūje, amongst the Aroras, to Vālijyaka (IV. 2.54), etc. Archæological survey and digging may also help to some extent, since geographical places of antiquity often survive as so many sites.

The *sūtra Vishayo deśe* (IV. 2.52) calls for comment. What was the exact significance of *Vishayo?* Jainendra, Śākaṭāyana and Hemachandra take it as *rāshṭra*, and Vardhamāna as *Janapada*, which is the same thing. The

Kāśikā takes it as *grāma-samudāya*. Kātyāyana and Patañjali interpret *Vishaya* as being identical with *Janapada* in some cases, but their comments give the impression that even such geographical units as were not a *Janapada* were called *Vishaya*. For Pāṇini, if *vishaya* and *janapada* were identical, he would not treat of the former under a separate heading (IV. 2.52-54). The truth seems to be that *Vishaya* denoted 'sphere of influence,' 'lands,' 'possessions,' and as such was distinct from *nivāsa* or the actual settlement of the people whose possession it was. A *Vishaya* included both a bigger unit having the status of a *Janapada*, or a smaller area which was but an estate. In the words of the Rājanyādi *gaṇa*, *Vishaya* denoted *Janapadas*, while in those of the Bhauriki and Aishukāri *gaṇas* (IV. 2.54) it was the landed property, their share of estate, *ṭhikānā* or *zamindārī* which was the source of their livelihood. The suffixes *vidhal* and *bhaktal* (i. e. *vidha* and *bhakta*) denoted food, division, share, property. *Vidhā* (food) seems to be derived from *vidha* having such a meaning, and *bhakta* is well-known as denoting 'source of livelihood or maintenance.' The villages (*grāma-samudāya*) which were the *zamindārī* of the Bhaurikis were called Bhauriki-vidha, and similarly Aishukāri-bhakta without any reference to the polity that prevailed there.

The position in the post-Pāṇinian period was as follows. (1) In the case of big *Janapadas*, the distinction between the word-forms for *Janapada* and *Vishaya* was lost, both being called Aṅgāḥ, Vaṅgāḥ, Suhmāḥ, Puṇḍrāḥ, etc. (2) In some Janapadas like Rājanya, the distinction was retained, as Rajanyaka denoted a *Vishaya* and Rājanyāḥ the *Janapada* of the Rājanya tribe. Similarly Vāsātaḥ, Vasātayaḥ; Gāndhāraḥ, Gāndhārayaḥ; Śaibaḥ, Śibiyaḥ. (3) Other smaller units were only *Vishayas* or estates, like Bailvavanaka, Ātmakāmeyaka, Bhaurikividha and Aishukāri-bhakta.

MATERIAL

I जनपद—कच्छादि (शैषिक)। भर्गादि। सिन्ध्वादि (अभिजन)।

II विषय—ऐषुकार्यादि। भौरिक्यादि। राजन्यादि।

III संघ—दामन्यादि । पर्श्वादि । यौधेयादि ।

IV देशवाची (ग्राम, नगर)—

(a) चातुरर्थिक—अरिहणादि । अश्मादि । उत्करादि । ऋश्यादि । कर्णादि ।
काशादि । कुमुदादि । कुमुदादि । कृशाश्वादि । तृणादि ।
नडादि । पक्षादि । प्रगदिन् । प्रेक्षादि । बलादि । मध्वादि ।
वरणादि । वराहादि । सख्यादि । संकलादि । संकाशादि ।
सुतंगमादि । सुवास्त्वादि ।

(b) शैषिक—कच्छादि । काश्यादि । गहादि । धूमादि । नद्यादि । पलद्यादि ।

(c) अभिजन—शंडिकादि । तक्षशिलादि ।

(d) प्रस्थान्त—कर्क्यादि । मालादि ।

(e) कन्थान्त—चिहणादि ।

(f) गिरि, वन, नदी—किंशुलकादि । कोटरादि । अजिरादि । शरादि ।

I. JANAPADA NAMES

(१) कच्छादि (४।२।१३३)

(शैषिक अण् । काच्छः)

१ कच्छ, २ सिन्धु, ३ वर्णु, ४ गन्धार, ५ मधुमत्, ६ कम्बोज, ७ कश्मीर, ८ साल्व, ९ कुरु, १० रंकु, ११ अनुषंड, १२ द्वीप, १३ अनूप, १४ अजवाह, १५ विजापक, १६ कुलूत ।

(1) Kachchādi. Ref.—K (āśikā) IV.2.133; Ch (andra) III.2.48; J (ainendra) III.2.112; Ś (ākaṭāyana) III.1.46; Bh (oja) IV.3.71; H (emachandra) VI.3.55; V (ardhamāna) 327; P (atañjali).

Var (iants)—4 Gandhāri (Bh.); 5 Madhura Madhurāt (J.); 8 Śālva (Ch.); 11 Aṇukhaṇḍa (K.), a misreading, since K. reads Anushaṇḍa IV. 2.100; also Anūshaṇḍa (H); 14 Ajapāda (Ch.), Ajāvaha (J.); 15 Virūpaka (Ch.), Vijñāpaka (J.), Bijāvaka (Bh.); 16 Kulūna (K.), Kulla (Ch.), Kalūtara (Ś.), Kulūka (Bh.), also Kula, Kulva (V.). In J. Kamboja, Kaśmīra, Śālva missing. Sindhv-anta names (as Para-

(२) भर्गादि (४।१।१७८)

१ भर्ग, २ करूष, ३ केकय, ४ कश्मीर, ५ साल्व, ६ सुस्थाल, ७ उरस, ८ कौरव्य ।

(३) सिन्ध्वादि (४।३।९३)

[सोऽस्याभिजनः, अण् । सैन्धवः]

१ सिन्धु, २ वर्णु, ३ मधुमत्, ४ कम्बोज, ५ साल्व, ६ कश्मीर, ७ गन्धार, ८ किष्किन्धा, ९ उरस, १० दरद्, ११ गब्दिका ।

II. VIṢHAYA

(४) ऐषुकारि गण (४।२।५४)

[विषयो देशे, ऐषुकारि भक्तः]

१ ऐषुकारि, २ सारस्यायन, ३ चान्द्रायण, ४ द्व्याक्षायण, ५ त्र्याक्षायण,

Sindhu, Sthala-Sindhu, Saktu-Sindhu) in Bh. and V. (ch. K. VII.3.19), missing in K. Ch. Ś. but found in Bh. H. V. Also Yaudheya, Sasthāla (H.). P. authenticates in this the reading of Kuru (IV.2.130), Rāṅku (IV.2.100).

(2) Bhargādi—K. IV.1.178 ; Ch. II.4.106 ; J. III.1.158 ; Ś. II.4.107 ; Bh. IV.1.179 ; H. VI.1.123 ; V. 202.

Var.—2 Karūsa (J.), also Karūśa (H.) ; Śālva (Ch. V.), Selvā (J.) ; 7 Urasa (Ś. H.). V. adds Bharata, Uśīnara.

(3) Sindhvādi—K. IV.3.93 ; Ch. III.3.61 ; J. III.3.67 ; Ś. III.1.201 ; Bh. IV.3.212 ; H. VI.3.276 ; V. 351-52.

Var.—2 Varṇa (J.) ; Salva (J.H.), Śālva (ch. Ś. V.) ; 7 Gāndhāri (Bh.) ; 8 Kishkindha (J.H.), 9. Urasā (Ś. Bh. V.), Uras (H.) ; 11 Gandika (Ch.), Gandikā (Ś), Gabdika (J.H.). Ch. reads Takshaśilādi also in this. J. adds Pañchāla, Kaimedura, Kāṇḍakāra, Grāmaṇī ; H. Grāmaṇī, Kāṇḍavaraka, Kulūja ; and K. Kuluna, Dirasā, but all are spurious to this Gaṇa.

(4) Aishukāri Gaṇa—K. IV.2.54 ; Ch. III. 1.63 ; J. III. 2.47 ; Ś. II. 4.189 ; Bh. IV.2.89-91 ; H. VI.2.68 ; V. 268-69.

Var.—2 Sārasāyana (J.H.) ; 4 also Dvyakshāyaṇa (H.) ; 5 also Tryakshāyaṇa (H.) ; 6 Aulāyana (Ś. H.), Alāyana

६ जौसायन, ७ खाडायन, ८ सौवीर, ९ दासमित्रायण, १० शौद्रायण, ११ दाक्षायण, १२ शयंड, १३ तार्क्ष्यायण, १४ शौभ्रायण, १५ वैश्वमाणव, १६ वैश्वधेनव, १७ वैश्वदेव, १८ तंडदेव।

(५) भौरिकि गण (४।२।५४)

[विषयो देशे, भौरिकिविधः]

१ भौरिकि, २ भौलिकि, ३ चैटयत, ४ काणेय, ५ वाणिजक, ६ वालिज्यक, ७ सैकयत, ८ चैकयत, ९ चौपयत।

(६) राजन्यादि (४।२।५३)

[विषयो देशे वुञ्, राजन्यकम्]

१ राजन्य, २ दैवयातव, ३ शार्लंकायन, ४ जालंधरायण, ५ आत्मकामेय,

(J.); 7. Tāḍāyata (J.), Khādāyana (H. also V.), Khāṇḍāyana (Bh.) 9. K. Ch. Ś.H.V. also read Dāsamitri (Ch. Dāsamitra) 10. Śaudrāna (K.), Śaudrakāyaṇa (Ś. H. V.); 11. only in K. Ch. V, and hence doubtful; 12 Śāyāṇḍa (Ch.), Tapanda (J.), with additional variants as Ṣāyaṇḍi (K.) Sāpiṇḍi (J.), Sayāṇḍa (Bh.), Śāyaṇḍāyana (V.), Śayāṇḍa and Śāṇḍa (H.); 13. omitted in Ch. J. Bh.; 14. Saubhadrāyaṇa (Ch.) but H. cites Saubhrāyaṇa-bhakta of Ch., J. Ś. omit it, Śayābhra (Bh.); 15. Vaiśvamānava (Bh. also V.); 16. Ch. J. H. omit; 17. Vaiśvadheva (J.), also Viśadeva (K.); 18. Ch. omits. H. adds flimsy variants as Gaulukāyana, Mālukāyana, and K. as Alāyata, Aulālāyatā, all to be rejected.

Vishayo deśe of Pāṇini denoted an estate of a tribe or clan; but *grāma-samudāya* according to K., which J. and H. take as equivalent to *rāshṭra*, and V. as *Janapada*.

(5) Bhaurikyādi—K. IV.2.54; Ch. III.1.63; J. III.2.47; Ś. II.4.189; Bh. IV.2.88; H. VI.2.68; V.267.

Var.—3 Chodayata (Ś.); 5 Vāṇejaka (J.), Ch. Ś omit; 6 Vālikājya (Ś.V.), Vālikādya (H.); 7 Śaikayata (K., also Ch.); 8 Vaikayata (K.), Vaiyat (J.); 9 K. omits, Cbaupagata (J.); Ś omits 5, and adds Vaidayata, Kshaitayata (also H.V.).

(6) Rājanyādi—K. IV.2·53; Ch. III.1.62; J. III.2.46; Ś. II.4.190; Bh. IV.2.86-87; H. VI.2.66; V. 265-6.

६ अम्बरीषपुत्र, ७ वसाति, ८ बैल्ववन, ९ शैलूष, १० उदुम्बर, ११ आर्जुनायन, १२ संप्रिय, १३ दाक्षि, १४ ऊर्णनाभ, १५ आग्नीत, १६ तैतिल ।

III. SAṄGHAS

(७) दामन्यादि (५।३।११६)

[आयुधजीविसंघात् स्वार्थे छः, दामनीयः]

१ दामनि, २ औलपि, ३ काकदन्ति, ४ अच्युतंति, ५ शत्रुंतपि, ६ सार्वसेनि, ७ बैन्दवि, ८ मौंजायन, ९ तुलभ, १० सावित्रीपुत्र, ११ बैजवापि, १२ औदकि ।

Var.—2 Devayāna (K. Bh.), also Devayāta (H.), Devayātava (V.); 4 Jālandhara (Ś.), also Jānandharāyaṇa (H.); 6 Ambariputra (Ś.), also Ambarī-Ambarī-(H.); 7 Vātsaka (J.), H. omits; 8 Bailvata (Ch.), omitted in J. Ś; 9 omitted in J.Ś., Śailūshaja (H.), Śailūshaka (V.); 10 also Audunbara (H.), J. omits; 11 Ś omits; 12 Sāṁpriya (Bh); 13 Dākshāyaṇa (V.); 14 also Ūrṇanābhi (H.); 15 Āprīta is undoubtedly the correct reading (= Afrīdis), but Ch. omits, and others record incorrectly, Āvrati (J.), Āvrita (Ś.), Anṛita (Bh. V.), Āvrita and Āvritaka (H.); 16 Some original form of Vaitila (K. Bh.), Taitala (Ś. H.), Tailvala (V.), Bailvala (K.), which seems to have been Taitila, Add Avrīḍa, Vātraka (K.); Vātrava Kāntāla, Bābhravya, Vaiśvadhenava, Vaiśvamāṇava, Vaiśvadeva, Tuṇḍadeva (Ś., last four contaminated from Aishukāri *gaṇa*); Vaikarṇa Vasana, Bābhravya, Mālava, Trigarta, Vairāṭi (Bh.); Vātrava, Bābhravya, Kauntāla, Virāṭa, Mālava, Trigarta (H.); Traigarta, Vasana, Kauttāla (V.). Some original form like Vātraka seems to have been included. P. authenticates 2 (*Daivayātava grahaṇaṁ vaishayikeshu*, IV. 2. 92; II. 291) and 5, 6, 7, 8 (IV. 1. 52; II. 282). The group of Mālava, Trigarta, Virāṭa was taken from Chāndravṛitti by Bh. and H.

(7) Dāmanayādi—K. V.3.116; Ch. IV.3.92; J. IV.2.5; Ś. III.4.145; Bh. V.3.151-52; H. VII.3.67; V.192.

Var.—2 also Aupali (H.); 3 Kākandaki (Ch. B. H.), Kākandi (Ś. H.), Kākadantakī also (V.), 5 Śātruntapi (Ś.V.), Śākuntaki (Ch. J. Ś. Bh. V.), 7 Bindu (K. Ch. J. H. V.);

(८) पर्श्वादि (५।३।११७)

[आयुधजीविसंघात्स्वार्थे अण्, पार्शवः]

१ पर्शु, २ असुर, ३ रक्षस्, ४ बाल्हीक, ५ वयस्, ६ मरुत्, ७ दशार्ह, ८ पिशाच, ९ अशनि, १० कार्षापण, ११ सत्वत्, १२ वसु ।

(९) यौधेयादि (४।१।१७८)

१ यौधेय, २ शौभ्रेय, ३ शौक्रेय, ४ ज्याबाणेय, ५ वार्तेय, ६ धार्तेय, ७ त्रिगर्त, ८ भरत, ९ उशीनर ।

IV. PLACE NAMES

(a) *Chāturarthika*

(१०) अरीहणादि (४।२।८०।१)

[चातुरर्थिक वुञ्। आरीहणकम्]

१ अरीहण, २ द्रुवण, ३ खदिर, ४ भगल, ५ उलन्द, ६ साम्परायण, ७ कौष्ट्रायण,

8 Maunjyāyani (Bh.); 11 Devavāpi (K.); 12 Audaṅki (Ś. Bh. V.), Autaki (K.), Ākidanti, Kākaranti, Ulabha, Kokatanti, Apachyutaki, Karkī, Piṇḍi are spurious readings in K.; similarly Audameghi, Aupabindi, Kakundi, Kakundaki in H.; Auḍavi in Bh. V; Āvidanti in V. J. and Ś. include the Trigarta-Shashṭhas also in this Gaṇa.

(8) Parśvādi—K. V. 3. 117; Ch. IV.3 93; J. IV. 2. 6; Ś. III.4 145; Bh. V.3.153; V. 197.

Var.—4 Balhīka (V.); 10 Karshāpaṇa (V.); 11 Satvantu (Ch.), J. includes Yaudheyādi also under Parśvādi.

(9) Yaudheyādi—K. IV. 1. 178; Ch. IV. 3. 93; J.IV.2.6 and III.1.158; Ś. III.4.145; Bh. V.3.154; H.VII.3.65 and also in Bhargādi VI.1.123; V. missing.

Var.—3 Śaukneya (K.), Saukreya (J. III.1.158 com., missing in IV.2.6); 4 Grāvāṇeya (K. undoubtedly a corrupt reading), Jyāvāneya (Bh. H.) 5 Gharteya (Ś. H. Bh; Bh. also correctly Vārteya). Bh. reads 7-9 in Parśvādi, and H. in Bhargādi VI.1.123).

(10) Arīhaṇādi—K. IV. 2. 80; Ch. III. 1. 68 (first two

८ भास्त्रायण, ९ मैत्रायण, १० ग्रैवर्तायन, ११ रायस्पोष, १२ विपथ, १३ उद्दंड, १४ उदंचन, १५ खाडायन, १६ खंडवीरण, १७ काशकृत्स्न, १८ जाम्बवत्, १९ शिंशपा २० किरण, २१ रैवत, २२ बिल्व, २३ वैमतायन, २४ सौसायन, २५ शांडिल्यायन, २६ शिरीष, २७ बधिर, २८ विपाश, २९ सुयश, ३० जम्बू, ३१ सुशर्म ।

words only); J. III.2.60; Ś. II.4.202; Bh. IV.2.110-11; H. VI.2.83; V. 286-89.

Var.—1 Arihaṇa (Bh.); 2 also Druvaṇa (Ch.), Dughaṇa (Ś.), Druhaṇa (Bh. H. V.); 3 Kharadi (Ś); 4 H. V. S. add Bhalandana; 5 Ulunda (J. Ś H); 6 Sāṁparāyaṇa (J.), Ś. omits, Khāvurāyaṇa and Khāpurāyaṇa (H); 7 Kraushṭāyana (J.), Koshṭāyana (Ś.), Kaushṭāyana (H., also Kaudrāyaṇa), Aushṭrāyaṇa (Bh, also V); 8 J. omits, but P. treats it as an authentic reading (*Bhāstrāyaṇa-grahaṇaṁ naivāsikeshu*, IV.2.92; II.291); 9 Chaitrāyaṇa (J.), Ś omits, Śvitrāyaṇi (H.) also Śvaitrāyaṇaka (V.); 11 Rāyasphosha (J. Ś); 15 Khāṇḍāyana (J.) Khāburāyaṇa (Ś), Khānurāyaṇa (H.); 16 Khaṇḍa Vīraṇa as two words (K.) Khaṇṭu Dhīraṇa (Ś.), Rakaṇḍu, Khaṇḍū and Vīraṇa separately (H.), Khaṇḍu, Vīraṇa and Khāṇḍavīraṇa (V.), possibly these two were separate names; 17 Kaśakṛitsna (H.V.), Ś. omits; 18 Aumbavati (Ś. an obvious corrupt reading); 19 Ś. (Kanarese transcript) omits; 22 Bailvaka (K., the form by adding suffix), Ś. omits, Bilva (Bh. H. V.), Tailva J. 23 also Maimatāyana, Gomatāyaṇa (K.), Dhaumatāyana (Ś. V.), also Gaumatāyana (V.); 24 Saumāyana (J. H.), also Sauśayana (H.), Ś. Bh. omit, cf. Sausuka a Vāhīka town in P. (IV.2.104); 25 Ś. omits; 26 J. Ś. H. omit, may be doubtful; 27 J. omits, Badira (Ś.); 28 Vipārśva (Ś.); 30 J. Ś. omit, Jambu (K); 31 J. Ś. omit.

Add. Visāya, Vāyasa (J.); Yajñadatta, Raudrāyaṇa (Ś.); Yajñadatta, Samburāyaṇa, Sāmbarāyaṇa (H.); Yajñadatta, Kanala, Dalatri, Kaudrāyaṇa (V.).

(११) अश्मादि (४।२।८०।८)

[चातुरर्थिक रः। अश्मरः]

१ अश्मन् २ यूथ, ३ ऊष, ४ मीन, ५ दर्भ ६ वृन्द, ७ गुड, ८ खंड ९ नग, १० शिखा।

(१२) उत्करादि (४।२।९०)

[चातुरर्थिक छः। उत्करीयम्]

१ उत्कर, २ शफर, ३ पिप्पल, ४ अश्मन्, ५ अर्क, ६ पर्ण, ७ खलाजिन, ८ अग्नि, ९ तिक, १० कितव, ११ आतप।

(१३) ऋश्यादि (४।२।८०।३)

[चातुरर्थिक कः ऋश्यकः]

१ ऋश्य, २ न्यग्रोध, ३ शर, ४ निलीन, ५ निवास, ६ विनद्ध (?), ७ परिगूढ, ८ उपगूढ, ९ उत्तराश्मन्, १० स्थूलबाहु, ११ खदिर, १२ शर्करा, १३ अनडुह, १४ परिवेश, १५ वेणु, १६ वीरण।

(11) Aśmādi—K. IV.2.80; J. III. 2. 60; Ś. II.4.202; Bh. IV.2.120; H. VI.2.78; V. 271.

Var.—2 also Yūsha (K. Ś. Bh. H.); 3 Rūsha (K.), Ūtha (J.); 6 Vrindā (J.); 7 Gudā (J.), Guhā (Ś. H.), V. adds Gahva and Guhā; Kāṇḍa (S. also V.), Kaṇda (H.) K. adds Rusha, Nada, Nakha, Kāṭa, Pāma, all uncertain.

(12) Utkarādi—K. IV.2.90; Ch. III.1.68 (only first two words); J. III.2.71; Bh. IV.2.134-36; H. VI.2.91; V.301-3.

Var.—J. gives only 13 words, as against 43 of K. which may be an inflated version. Bh. H. V. of course follow K. A critical edition of K. can alone throw further light on the original text of this *gaṇa*.

(13) Ṛishyādi—K. IV.2.80.3; J. III.2.60; Ś. II.4.202; Bh. VI.2.114-15; H. VI.2.94; V. 293.

Var.—3 Śirā (K.); 4 mentioned in P. (IV.2.104; II.294); Nivāsa, Nidhāna, Nivāta in K. point to one original;

(१४) कर्णादि (४।२।८०।१३)

(चातुरर्थिक फिञ्। कार्णायनिः)

१ कर्ण, २ वसिष्ठ, ३ अर्कलूष, ४ द्रुपद, ५ आनडुह्य, ६ पांचजन्य, ७ कुलिश, ८ कुम्भ, ९ जीवन्त, १० जित्वन्, ११ आण्डीवत्, १२ स्फिक्।

(१६) काशादि (४।२।८०।१५)

(चातुरर्थिक इलः। काशिलः)

१ काश, २ वाश, ३ अश्वत्थ, ४ पलाश, ५ पीयूष, ६ बिस, ७ तृण, ८ कर्दम, ९ कर्पूर, १० कंटक, ११ गुहा, १२ नड, १३ वन, १४ बबूल।

6 Nivadha (K. J.), Nibandha (Bh. H. V.), Vivaddha (K. J.), all derived from one original; 10 Sthūla and Bāhu (V.), H. reads as one word and also separately, also Sthūlavāha (J.). The list closed with Vīranı in J ; Ś. also Khaṇḍu ; K. Bh. H. V. add Kardama, Parivṛitta, Aṁśa ; others Araḍu (Araṭu), Aśani, which group is doubtful.

(15) Karṇādi—K. IV.2.80 ; J. III 2 60 ; Ś. IV.2.202 ; Bh. IV.2.129 ; H. VI.2.90 ; V.291.

Var.—2 Vaśishṭha (J. V) ; 3 Arkalūsha was one name as read in the Bidādi *gaṇa* in K. and other systems as J. Ś. H., wrongly split here, but Bh. H. V. read both separately and as one word ; 4 Dupada (K.), Bh omits ; 5 Anaduhya (K.), Ānuduhya (Ś) ; 8 Kumbhī (K. V., latter also Kumbha, Kuntī) ; 9 Jīvantī (K) ; K. adds Jñāvat ; Ś. Bh. H. V. add Ākaṇi, Āṇaka, Ākanī, Ākana ; Ś. H. V. Jaitra.

(16) Kāśādi—K. IV.2.80 ; J. III.2 60 ; Ś. II.4.202 ; Bh. IV.2.117 ; VI.2.82 ; V.296-7.

Var.—2 Vāsa (J. Ś. Bh. V.), Pāśa (Bh. H. V.) ; Pīyūkshā (Ś. H.), Ś. omits; 8 Kārdama (J.) ; 10 Karkaṭa (J.) ; 11 Gūha (K.) ; 12 Nada (Ś.), Nala (H.) ; 14 Vadhūla (K), Varghūla (J.), Bandhūla (Bh.), Vartūla (H.), Vachchhūla (V.).

Add. Śākaṭika (J.), Śīpāla (Ś. H. V.), Kapittha (Ś. H. V), Madhura, Jatu (V.).

(१७) कुमुदादि (४।२।८०।४)

[चातुरर्थिक ठच्। कुमुदिकम्।]

१ कुमुद, २ शर्करा, ३ न्यग्रोध, ४ इक्कट, ५ गर्त, ६ बीज, ७ अश्वत्थ, ८ बल्वज, ९ परिवाप, १० शिरीष, ११ यवास, १२ कूप, १३ विकंकत।

(१८) कुमुदादि (४।२।८०।१७)

[चातुरर्थिक ठक्। कौमुदिकम्]

१ कुमुद २ गोमठ, ३ रथकार, ४ दशग्राम, ५ अश्वत्थ, ६ शाल्मली, ७ मुनिस्थल, ८ कूट, ९ मुचुकर्ण।

(१९) कृशाश्वादि (४।२।८०।२)

[चातुरर्थिक छण्। कार्शाश्वीयः]

१ कृशाश्व, २ अरिष्ट, ३ वेश्मन्, ४ विशाल, ५ रोमक, ६ शबल, ७ कूट, ८ बर्बर, ९ सूकर, १० प्रतर, ११ सदृश, १२ पुरग, १३ सुख, १४ धूम, १५ अजिन, १६ विनत, १७ विकुघास, १८ अरुस्, १९ अयस्, २० मौद्गल्य।

(17) Kumudādi—K. IV.2.80 ; J. III.2.60 ; Ś. II. 4. 202 ; Bh. IV.2.116 ; H. VI 2.96; V.294-95.

Var.—2 Śarkkara (J.), Ś omits; 4 Itkaṭa (K.) also Utkaṭa (Bh.); 6 Ś omits; 7 Bilvaja (Ś.) 9 Parivāsa (Ś.); 10 Ś. omits; 11 Yavāsha (K. H.), 13 Vikanta (Ś.).

(18) Kumudādi—K. IV.2.80; J. III.2.60. Ś. II.4.202; Bh. IV.2.133; H. VI.2.97; V.285.

Var.—2 Gomatha (K. J.), Gomada (Ś.), but Gomaṭha (Bh. H. V.) is also authenticated by Ch. (III.1.68); 4 Dāśa-grāma (Ś. H.); 8 Kuṭa (H.), Kumuṭa (Bh.); 9 J. Bh. V. Ch. omit, Muchakūrṇi (Ś also H.); K.adds Kunda, Madhukarṇa Śuchikarṇa, Śirīsha.

(19) Kriśāsvādi—K. IV.2.80.2; J. III.2.60; Ś. II. 4.202; Bh. IV.2.112-13 ; H. VI.2 93; V. 290-91.

Var.—3 Vaiśya (Ś.), Veshya (H.), also Vepya (J.), all corrupt readings; 5 also Lomaka (J. Ś. H. V.); 6 Śavala (J. H.), Kabala (Ś.), also Śivala (H.), also Suvarchala (Bh. H. V.), all corrupt readings; 7 J. omits, Kuṭa (Bh.); 8 Varvara (K.), Barbala (Ś), Bh. H. omit; 9 Śūkara (H.),

(२०) तृणादि (४।२।८०।६)

[चातुरर्थिक स । तृणसा]

१ तृण, २ नड, ३ बुस, ४ पर्ण, ५ वर्ण, ६ वरण, ७ अर्जुन, ८ बिल ।

(२१) नडादि (४।२।९१)

[चातुरर्थिक छः कुक् च । नडकीयम्]

१ नड, २ प्लक्ष, ३ बिल्व, ४ वेणु, ५ वेत्र, ६ वेतस, ७ तृण, ८ इक्षु, ९ काष्ठ, १० कपोत, ११ क्रुंचा, १२ तक्षन् ।

also Sukara (K.), Dūraka (Ś); Pūgara, Dhūkara, Pūkara (H., who often gives most inflated version); 10 Pūtra (J. also V.), also Pūkara (V.), Pūraka, Pūraga (Ś); 11 Sudṛiśa (Bh.), also Saṁdriśa (H.); 12 Puragā (Bh. Ś H.), J. omits, also Pūgara, Purāra (V.); 14 Dhūmra (Ś. also H.); 15 also Ajinata (V.); 16 Vinatā (v. l. Vanitā, K.), Vinīta (H.), K. Bh. H. V. also give Avanata, but J. Ś omit, which shows that originally there was only one word, 17 J. omits 17 to 20, Vikūṭyā (Ś.), Vikudyāsa (Bh.), Vikuchyā, Vikuṭyāṅkuśa (H.), Vikuṭyāsa (V.) 18 also Iras (Ś.), Uras (Bh.), Iras, Uras, Arushya (H.); 19 Avayāsa (J.), Aya (Bh.), also Sāyas (H.), 20 Modgalaya (Ś.), also Mudgala (H.). V. adds Parāśara Āsāyas, Dāsī, Satula, Veshya, Iras, Aras, Dhukera, Asura, Abhijana, all spurious variants. Ś adds Abhijana.

(20) Triṇādi—K. IV.2.80; J. III.2.60; Ś. II.4.202; Bh. IV.2.118; H. VI 2.81; V.298; Ch. III.1.68 (only first two words, Triṇasā, Nadasā).

Var.—2 Nada (Ś. II.); 3 Tusa (H.); 4 Arṇa (Bh.); 6 Charaṇa (K.), Varāṇa (J. Ś V.); 7 Arṇa (K. Ś.), Arṇas (H.), Bh. omits, also Arṇa (V.), Jana (K., Bh., H.), Janaka (J.), Arṇa, Arjuna, Jana seem to be variants of one original word; 8 Bala (K. Bh), Phala (J.), also Bala, Bula (V.); Lava (K.), Pula (Ś. H.), Phala (V.) are other variants; Vana in K. Ś. H. V. seems to be an addition.

(21) Naḍādi—K. IV.2.91; J. III.2.72; Bh. IV.2.137-38; H. VI.2.92; V.270.

(२२) पक्षादि (४।२।८०।१२)

[चातुरर्थिक फक्। पाक्षायणः]

१ पक्ष, २ तुष, ३ अंडक, ४ कम्बलिक, ५ चित्र, ६ अतिश्वन्, ७ पन्थ, ८ कुम्भ, ९ सीरक, १० सरक, ११ सरस, १२ समल, १३ रोमन्, १४ लोमन्, १५ हंसक, १६ लोमक, १७ सकर्णक, १८ हस्तिन्, १९ बल, २० यमल।

(२३) प्रगदिन् आदि (४।२।८०।१५)

[चातुरर्थिक ञ्यः। प्रागद्यम्]

१ प्रगदिन्, २ मगदिन्, ३ कलिव, ४ खडिव, ५ गडिव, ६ चूडार, ७ मार्जार, ८ कोविदार।

(२४) प्रेक्षादि (४।२।८०।७)

[चातुरर्थिक इनिः। प्रेक्षिन्]

१ प्रेक्षा, २ फलका, ३ बन्धुका, ४ ध्रुवका, ५ क्षिपका, ६ न्यग्रोध, ७ इक्कट, ८ कंकट, ९ कूप।

Var.—7 Tri (J. H. V.).

(22) Pakshādi—K. IV.2.80; J. III.2.60; Ś. II.4.202; Bh. IV.2.126-28; H. VI. 2. 89; V. 278-80.

Var.—2 Tusa (J.); 3 Aṇḍa (K. V.); 4 Pilika (Ś.), Kambilikā (V.); 5 Chitrā (J., also H.); 9-12 also in IV.2.80.9 (Sakhyādi) where they may be exotic; 15-16 omitted in Bh.; 17 Sakaṇḍaka (K.), 18-19 seem to be the original of the confused Astibala, Hasta (K.), Hastabila (J), Bilahasta, Hastin (Bh.), Bilahasti, (V.) Bilahasta, Hastin (H.); 20 Paṅgala (J.); Ś omits 18-20.

(23) Pragadinādi—K. IV.2.80; J. III.2.60; Ś. II.4.202; Bh. IV.2.131; H. VI.2.84; V. 274; J. Ś., H. V. read Saṅkaśādi and Pragadinnādi together.

Var.—2 also Śaradin (K.), Śādin (J.); 3 Kalira (J.), Kaṭida (Ś.), Palita (V.); 4 Khadira (J.), Kaṭipha (Ś.), Khaṇḍita (V.); 5 Gaḍira (J.), Ś. omits, so also V., 6 Chūdāra (H.); 1. Mañjāra (J.), Majāra, Madāra (H.), Mandāra, Maḍāra (V.). H. also adds Kaṭiva, Kaṭida, Kaṭipa.

(24) Prekshādi—K. IV.2.80; J. III.2.60; Ś. II.4.202; Bh. IV.2.119; H. VI.2.80; V. 299.

(२५) बलादि (४।२।८०।११)

[चातुरर्थिक यः । बल्यः]

१ बल, २ वुल, ३ मूल, ४ उल, ५ डुल, ६ नल, ७ वन, ८ कुल ।

(२६) मध्वादि (४।२।८६)

[चातुरर्थिक मतुप् । मधुमत्, मधुमान्]

१ मधु, २ बिस, ३ स्थाणु, ४ ऋषि (अरिष्ट), ५ इक्षु, ६ वेणु, ७ रम्य, ८ ऋक्ष, ९ कर्कन्धू, १० शमी, ११ करीर, १२ हिम, १३ किशरा, १४ शर्पणा, १५ मरुत्, १६ दार्वाघाट, १७ शर, १८ इष्टका, १९ तक्षशिला, २० शुक्ति, २१ आसन्दी, २२ आसुति, २३ शलाका, २४ आमिषी, २५ खड़ा (पीडा), २६ वेटा ।

Var.—2 Halakā (V., also K.); 3 Vandyakā (Ś.), Bandhuka (J.); 4 Dhruvaka (J.), also Dhuvakā (J. Ś. H. V.); 5 Kshiprakā (Ś.); 7 Irkuṭa (K.), Itkaṭa (J. Bh.); 8 Saṁkaṭa (K. J.); 9 Kupkā (K.), Kapi (J.); K. adds Karkaṭā, Sukaṭā, Saṁkaṭa, Suka, Mahū, all spurious.

(25) Balādi—K. IV.2.80; J. III.2.60; Ś. II.4.202; Bh. IV.2.125; H. VI.2.86; V.277.

Var.—2 Pūla (J.), Pula (H.), Chula (V.), Nula (Ś. Kanerese Ms. Devanāgarī transcript, but printed edition Vula); 3 Tula (K.), Mūla (J.), also Pula (V.); 5 Dula (J.), Dulala (Bh.), 6 K. alone Kavala, others Nala; 7 Vacha (J.); 8 Krala (J.), Kula (Bh.), no doubt the original reading was Kula, cf. Kulyā in Ch.

(26) Madhvādi—K. IV.2.86; J. III. 2.67; Ś. II.4.196; Bh. IV.2.148-49; H. VI.2.73; V.300.

Var.—2 Viśa (J.); 4 Mushṭi (K.), Prithi (J.), Ushṭi (Ś.), Ṛishi (H.), Arishṭa (Bh. V.); 7 omitted in J. Ś. H., Roma (Bh. V.); 8 Ṛishya (Bh. V.), J.Ś.H. omit; 9 Kukundhu (Ś.) 11 Sarīra (Ś.), Kirīra (K.); 13 Kisara (H.), Kisarā (H.), Kiśara (Bh.); 14 Sāryaṇa (J.), Śaryāṇa (Ś.), Sārpaṇa (H.), Āśaryāṇa (Bh.), Saryāṇa (V.); 15 J. omits, Bhuvat (Ś.), Ruvat (H.), also Maruva (K.); 16 Vārdākī (J.), Pārda (Ś.),

(२७) वरणादि (४।२।८२)

[चातुरर्थिक प्रत्ययस्यलुप्, वरणा]

१ वरण, २ गोदौ, ३ आलिग्यायन, ४ पर्णी, ५ शृंगी, ६ शाल्मली, ७ जालपदी, ८ मथुरा, ९ उज्जयिनी, १० गया, ११ तक्षशिला, १२ उरसा, १३ कटुकबदरी, १४ शिरीष।

(२८) वराहादि (४।२।८०।१६)

[चातुरर्थिक कक्। वाराहकम्]

१ वराह, २ पलाश, ३ शिरीष, ४ पिनद्ध, ५ स्थूल, ६ विदग्ध, ७ विभग्न, ८ बाहु, ९ खदिर, १० शर्करा।

Pārdā (H. also Pārdākī), Vārdālī (Bh. V.); 17 Śaru (H.); 19 J. omits, Akshaśilā (Ś. H.); 20 Śikti (K.), Śuki (J.); 23 Śālakā (J.), Śakalī (Ś. H.); 24 Āmighī (K.), Amihi (Ś); 25 Khaḍā (K. Bh. V.), Pīḍā (Ś. H. V.); 26. Veṭa (H. V.), Veda (S.), Vaṭā (Bh.), also Vaṭā (V.), Veyaveṇa (J.), J. V. add Valmīka.

(27) Varaṇādi—K. IV. 2.82; Ch. III. 1.68 (only first two words); J. III. 2.63; Bh. IV. 2.144-45; H. VI. 2.69.

Var.—2 Pūrva Godau, Purveṇa Godau, Apareṇa Gadau (K.), Goda (Bh. H.); 3 Ālanyāyana-parṇa (H.), 5-6 Śriṅgi-Śālmali (J. one word, so also H. but Śriṅga-); 7 Jālapada (K), Jālapadā (H.); 12 Urasa (J.), Urasā (Bh.). K. J. call it an *ākṛiti-gaṇa*, because of which several other names were added in Bh., but H. preserves a purer text. K. adds Parṇī, Vaṇiki, Vaṇika unknown to H.

(28) Varāhādi—K. IV. 2.80; J. III. 2.60; Ś. IV. 2.202; Bh. IV. 2.32; H. VI. 2.95; V. 284.

Var.—3 Ś. H. omit; 4 J. Ś. omit; 5 Sthūṇa (K.); 6 Nidagdha (J.); also Vijagdha (K. J. Ś. H.); 7 Bhagna (Ś.), 8 Bahu (J.); 10 Śarkara (J.), Ś. omits. For 4, 6 Kanarese transcript has Vinada, Ninada. Ś. has Ayas, Arusa, Maudgalya here from Kṛiśāśvādi (IV. 2.80.2).

(२९) सख्यादि (४।२।८०।९)

[चातुरर्थिक ढञ् । साखेयः]

१ सखि, २ सखिदत्त, ३ वायुदत्त, ४ गोहिल, ५ भल्ल, ६ चक्रवाल, ७ छगल, ८ अशोक, ९ करवीर, १० सीकर, ११ सरक, १२ सरस, १३ समल ।

(३०) संकलादि (४।२।७५)

[चातुरर्थिक अञ्, सांकलः पौष्कलः]

१ संकल, २ पुष्कल, ३ उडुप, ४ उड्प, ५ उत्पुट, ६ कुम्भ, ७ निधान, ८ सुदक्ष, ९ सुदत्त, १० सुभूत, ११ सुनेत्र, १२ सुपिंगल, १३ सिकता, १४ पूतीक, १५ पूलास, १६ कूलास, १७ पलाश, १८ निवेश, १९ गम्भीर, २० इतर, २१ शर्मन्, २२ अहन्, २३ लोमन्, २४ वेमन्, २५ वरुण, २६ बहुल, २७ सद्योज, २८ अभिषिक्त, २९ गोभृत्, ३० राजभृत्, ३१ भल्ल, ३२ माल ।

(29) Sakhyādi—K. IV. 2.80 ; J. III. 2.60 ; Ś. II. 4.202 ; Bh. IV.2.121-122 ; H. VI.2 88 ; V.272-73.

Var.—2 Datta (J. Bh. also H.), Vāsavadatta (J. V.) ; 3 Vādatta (Ś. also H.), Agnidatta (also J. Bh. H. V.) ; 4 Gopila (J.), Gophila (Ś. H. V.), Gobhila (Bh.) ; 5 J. omits ; 7 Chakravāka (J. Ś. Bh. H. V.) ; 9 Karavāra (K.), Vīra (Ś.), J. omits ; 10 Sarkāpāla (J.), Sīraka (Ś. H.), Kasara (Bh.) ; 11 Saraka (Ś. H. V.), Kasura (Bh.), J. omits 11-13 ; 12 Sarala (Ś) ; possibly all names 10-13 represent variants of one original form. K. adds Charka, Vakrapāla, Uśīra, Surasa, Roha, Tamāla, Kadala, Saptala, all belonging to an inflated text.

(30) Saṅkalādi—K. IV.2.75 ; Bh. IV.2.100-04 : missing in J. Ś. H. V.

Var.—4 Udyāta (Bh.) ; 10 Subhūma, Subhṛita (Bh.); 12 Sumaṅgala (Bh.) ; 14 Pūtīkī (K.) ; Pūtika (Bh.) ; 16 Tulāsa, Mūlāsa (Bh.) ; 20 also Gabbīra (Bh.) ; 22 Śarīra (Bh.) ; 23 Heman (Bh.) ; 30 Gobhṛita (Bh.) ; 31 Rājabhṛita (Bh.) ; 34 Pāla (Bh.). K. adds after 18 Gavesha, after 31 Gṛihabhṛit. Bh. adds Kapāla, Utpisha, Utpala, Śātāhata,

(३१) संकाशादि (४।२।८०।१०)

[चातुरर्थिकः ण्य । सांकाश्यः]

१ संकाश, २ कम्पिल, ३ कश्मर ४ शूरसेन, ५ सुपथिन्, ६ सुपरि, ७ यूप, ८ अश्मन्, ९ कूट, १० मुनिन, ११ तीर्थ, १२ अगस्ति, १३ विरन्त, १४ विकर, १५ नासिका ।

(३२) सुतंगमादि (४।२।८०।१४)

[चातुरर्थिक इञ् । सौतंगमिः]

१ सुतंगम, २ मुनिवित्र, ३ विप्रचित्त, ४ महापुत्र, ५ श्वेत, ६ गडिक, ७ शुक्र, ८ विप्र, ९ बीजवापिन्, १० श्वन् ११ अर्जुन १२ अजिर ।

Nibata (Niyata), Karavana, all of which seem to be part of an inflated text.

(31) Saṁkāśādi—K IV.2.80; J. III.2.60; Ś. II 4.202; Bh. IV.2.103; H. VI.2.84; V. 274.

Var.—2 Kampila (H.); 3 Kāśmīra (J.), Kaśmīra (Bh. H. V.), Ś. omits, but Kaśmara of K. seems to be the correct reading; 4 Śūra (Ś. H., also Śūrasena), Sūra (V., also J.); 5 V. omits, J. also Supatha, Bh. also Supanthi, Suvanthin and Supanthin (H.); 6 original doubtful, Sakthacha (K.), Manmatha (J.) Supaiyapa (Ś.), Sakarṇaka (Bh.), Sakarṇa (H. also Supari); 7 Yūthi (J.), S. omits, Yūpat (Bh.), H. also Kuṭa, Kuṇṭa, J. also Kula; 10 Malina (K. J. also Bh. H., may have been the original reading), Ś. omits; 11 Ś. omits; 12 Āgastya (Ś., also H.); 13 Virata (K.), Chiranta (Ś. V.), but Viranta seems to be the genuine reading (its derivative Vairantya); 14 Chikāra (K.), V. omits. Also some other words in Bh. H. V. all inflated texts. K. also reads Aṁśa, Aṅga in others.

(32) Sutaṅgamādi—K. IV.2.80; J. III.2.60; Ś II.4.202; Bh. IV.2.130; H. VI.2.85; V.282-83.

Var.—2 Munivitta (H.); 3 Mahāchitta (Ś, also Bh. V.), also Mahāchitra (J.), also Mahāvitta (H.); 6 Aṇḍika (J.),

(३३) सुवास्त्वादि (४।२।७७)

[चातुरर्थिक अण्। सुवास्तु+अण्—सौवास्तवः]

१ सुवास्तु, २ वर्णु, ३ भंडु, ४ खंडु, ५ सेचालिन्, ६ कर्पूरिन्, ७ शिखंडिद्, ८ गर्त, ९ कर्कश, १० शटीकर्ण, ११ कृष्णकर्ण, १२ कर्कन्धुमती, १३ गोह्य, १४ अहिसक्थ।

IV. PLACE-NAMES

(c) *Saishika*

(३४) कत्र्यादि (४।२।९५)

[शैषिक ढकञ्; कत्रि+ढकञ्—कात्त्रेयक]

१ कत्त्रि, २ उम्भि, ३ पुष्कर, ४ पुष्कल, ५ मोदन, ६ कुम्भि, ७ कुंडिन, ८ नगर, ९ माहिष्मती, १० वर्मती, ११ कुड्या।

Gadika (Ś. H.), also Khaṇḍika (V:); 9 Baijavāpis form part of the Dāmanyādi *gaṇa* (V.3.116) and are known to the Maitrāyaṇī Saṁhitā.

(33) Suvāstv-ādi—K. IV.2.77; Bh. IV.2.106-07; missing in Ch. J. Ś. H. V.

Var.—5 Śaivalin (Bh.); 10 Śaśakarṇa (Bh.); 11 Krishṇa and Karka (K., an obvious wrong splitting and reading); 13 Gāha (Bh.); 14 Abhisaktha (Bh.) Bh. adds Taṇḍu, Śephālika, Daksha-vikarṇa.

(34) Kattryādi—K. IV.2.95; Ch. III.2.5; J. III.2.76; Ś. III. 1.4-5; Bh. IV.3:6-7; H: VI:3:10-11; V: 315:

Var.—1 Kattri (Ch. V.); 2 also Umbi (J.), also Umpi, Aumbhi (H.); 4 also Podana (J.), Pudanā (V.), Paudana H.), Ś. omits; 6 Ch. J. Ś. omit, hence reading doubtful, Kumbhī (K.H.), 7 Kuṇḍinā (Ch. Ś. Bh. H. V.), Kuṇḍinī (J.); 8 Nagarī (Ch. J.V.); 10 K. also Charmaṇvatī but Varmati is supported by all others; 11 Kulyā (K.), Kuṇḍyā (Ś. H. V.). H. adds Kuṇyā, Ukshyā, Bhāṇḍyā, Grāmakuāḍyā Tṛinyā, Vanyā,

(३५) काश्यादि (४।२।११६)

[शैषिक ञिठ् ठञ् ; काशिकी काशिका]

१ काशि, २ बैदि, ३ सांयाति, ४ संवाह, ५ अच्युत, ६ मोदमान, ७ शकुलाद, ८ हस्तिकर्षू, ९ कूनामन्, १० हिरण्य, ११ करण, १२ गोवासन, १३ भौरिकि, १४ भौलिगि, १५ अरिन्दम, १६ सर्वमित्र, १७ देवदत्त, १८ साधुमित्र, १९ दासमित्र, २० दासग्राम, २१ शौवावतान, २२ युवराज, २३ उपराज, २४ सिन्धुमित्र, २५ देवराज ।

Palyā, Pulyā, Mulyā, all trash readings. V. adds Valyā Vanyā, Mulyā, Tṛiṇyā, Bhāṇḍyā, Vulyā.

(35) Kāśyadī—K. IV.2.116 ; Ch. III. 2.33 ; J. III. 2.93 ; Ś III. 1.29 ; Bh. IV. 3.46-49 ; H. VI.3.35 ; V. 322-24.

Var.—1 Kāśī (S.) ; 2 Bedi (Ch.), Vedi (J. Ś.), Chedi (Bh. H.V. also *v.l.* in K.); 3 Saṁjñā (K. undoubtedly corrupt), Saṁyāti (Ch.) ; 4 Sāṁvāha (Ś. Bh. H. V.) ; 6 Mohamāṇa (K. a corrupt reading) ; 7 Saṅkulāda (J.), Śvakulāla (Ś. H.) ; 8 Hastikarṇa (J.), Hāstika (Ś.) ; 9 Kudāman (K., a corrupt reading, *v. l.* Kunāman), Kulanāman (Ch.), Kaunāma (H.), Kenāma in Ś. (printed text) but omitted in Devanāgarī transcription of Kanerese Ms. ; 12 Godhāśana (Ś.), Gauvāsana (H. Ś) Gauvāsana also *v. l.* in V.) ; 13 Bhāraṅgi (Ch. Bh. H. V.), Bhauriṅgi (J.), Tāraṅgi (Ś. H., also *v. l.* in V.) ; 14 Sāraṅgi (Ch.), omitted in Ś. Bh. H. V. group, but seems to be genuine (cf. IV. 1.173, a member of the Sālva state), 15 Śakamitra (J.) ; Sadhamitra (Ch. J. H. V.), Sudhāmitra (Bh. V.), Chhāgamitra (Ś.H.V.), J. omits ; 19 Dāśamitra (Ś. also H.) ; 20 Dāśagrāma (V., also Dasagrāma) ; 21 Saudhāvatāna (K. Bh.), omitted in Kanarese transcript, but Sauvāvatāna in printed ed. Ch. adds Kāchi, Gopavana ; J. Taraṅga, Govāhana ; Bh. Modana and Amitra ; V. Modana and Aritra (said to be *Bhoja-sammata*).

(३६) गहादि (४।२।१३८)

[यथासम्भवं देशवाचिभ्यः शैषिकः छः। गहीयः]

१ गह, २ मध्य, ३ अंग, ४ वंग, ५ मगध. ६ कामप्रस्थ, ७ खाडायन, ८ काठेरणि, ९ शैशिरि, १० शौंगि, ११ आसुरि १२ आहिंसि, १३ आमित्रि, १४ अवस्यन्द, १५ क्षेमवृद्धिन्, १६ व्याडि, १७ वैजि, १८ आग्निशर्मि।

(३७) धूमादि (४।२।१२७)

[देशवाचिभ्यः शैषिक वुञ्। धौमकः]

१ धूम, २ खण्ड, ३ शशादन, ४ आर्जुनाव, ५ दांडायनस्थली, ६ माहकस्थली, ७ घोषस्थली, ८ मापस्थली, ९ राजस्थली, १० राजगृह, ११ सत्रासाह, १२ भक्षाली, १३ मद्रकूल, १४ गर्तकूल, १५ आंजीकूल, १६ द्व्याहाव, १७ त्र्याहाव, १८ संस्फीय, १९ बर्बर, २० वर्चगर्त, २१ विदेह, २२ आनर्त, २३ माठर, २४ पाथेय, २५ घोष, २६ शष्प, २७ मित्र, २८ पल्ली, २९ आराज्ञी, ३० धार्तराज्ञी, ३१ अवया, ३२ कूल, ३३ समुद्र, ३४ कुक्षि, ३५ अन्तरीप, ३६ द्वीप, ३७ अरुण, ३८ उज्जयिनी, ३९ दक्षिणापथ, ४० साकेत।

(36) Gahādi—K. IV. 2.138 ; Ch. III. 2.58 ; J. III. 2. 115 ; Ś. III. 1.50 ; Bh. IV. 3.81-92 ; H. VI. 3.63; V. 317.

Var.—The text of this *gaṇa* combines place-names with other nouns ; of a total of 48 words only 18 have been selected, first 15 of which are read in the Chandra-vṛitti. 7 Khāḍāyani (Ch. J. Bh. H.), Bhidāyanī (Ś., a corrupt reading); 8 Kāverani (K.), Kāterani (Ś.), also Lāverani (J. H.). 15 Kheshmadhṛitvi (Ch. H. V.), Kshaimavṛiddhi (Ś.), Kshaimavṛitti (Bh.).

(37) Dhūmādi—K. IV. 2.27 ; Ch. III. 2.41 ; J. III. 2. 106 ; Bh. IV. 3.59-61 ; H. VI. 3.46 ; V. 329-33. Ś. omits it.

Var.—2 Shāḍaṇḍa (Ch. V.). Shaṇḍa (J. Bh.), Shaḍaṇḍa, (H.), Shadāṇḍa (H. V.); 4 Ārjunāda (K.) Arjunāva (Ch. J. Bh.,

(३८) नद्यादि (४।२।९७)

[शैषिक ढक्। नादेयः]

१ नदी, २ मही, ३ वाराणसी, ४ श्रावस्ती, ५ कौशाम्बी, ६ वनकौशाम्बी, ७ काशफरी, ८ खादिरी, ९ पूर्वनगरी, १० पावा, ११ मावा, १२ साल्वा, १३ दार्वा, १४ सेतकी।

V. calls it a Vāhīkagrāma; 8 Poshasthalī (J.); 9 omitted in J.; 11 also Sātrāsāha (H.); 12 Bhakshāsthalī (K.), Bhekshālī (J.), Bhakshyādī, Bhakshyālī (H.); 13 Madrakula (Ch. H.), Madrasthala (J.); 14 Mitrakula (Ch.), Garta (Bh. V.), H. omits; 15 Añjikula (Ch. H.), Añjalikūla (J.), Ājikūla (Bh.); 18 Saṁbīya (K.), also Saṁstiya (Ch. V.) Saṁstiya (Bh.); 19 Parvata (J.), Barbaḍa (H.); 20 Garta (Ch. H.), Bh. splits Vaicha and Garta, and so also V., Garbha (J.), also Variya (H.); 23 Pādūra (J.); 24 also Pāṭheya (Bh. H. V.); 26 Shishya (K. H.); 27 omitted in Ch. J., 28 Vala (K.), Vallī (Ch.), Palli (J.), Vaṇiyapallī (H.); 29 also Arājñī (H.); 31 Ch. Avayāt tīrthe, Āvayāttīrthe (V.), Avayā (H.), Abhayā (J.), Avayāta tīrtha (K.) as two words; 35 Antariya (Bh.); 36 Dvipa (Bh.).

K. adds Mānuvallī, Vallī Surajñī; J. Māṇavasthalī; Bh. Mānasthalī (also H. V.); H. Mānakasthalī, Ānakasthalī, Māṇavakasthalī, Śakunti, Vanāda, Imkānta (?), Vadūra, Khādūra.

(38) Nadyādi—K. IV.2.97; Ch. III.2.6; J. III.2.77; Ś. III.1.1; Bh. IV.3.9; H. VI.3.2; V.314-15.

Var.—6 J. Bh. omit; 7 Ch. omits, Kāśaparī (Ś.); 8 Ch. omits; 9 Pūrvanagara (Ś., also Bh. H.); 10 Pāṭhā (Bh.); 11 Vāmā (Ch.), Māyā (Bh.); 12 Mālvā (Ś. H., also Bh.), Śilvā (J.), Śālvā (Ch. V.); 13 Ch. omits; Daurvā (Bh.); 14 Vāsenakī (K.), Saitava (J.), Senakī (Ś.), Saitikī (Bh.), seems to be the same as Setavyā. Ś. V. add Vanavāsī.

(३९) पलद्यादि (४।२।११०)

[शैषिक अण्। पालद।]

१ पलदी, २ परिषत्, ३ यकृल्लोमन्, ४ रोमक, ५ कलकूट, ६ पटच्चर, ७ वाहिक, ८ कमलभिदा, ९ बहुकीट, १० नैकती, ११ परिखा, १२ शूरसेन, १३ गोमती, १४ उपदान, १५ गोष्ठी।

(c) *Abhijana*

(४०) तक्षशिलादि (४।३।९३)

[सोऽस्याभिजन इति अञ्। ताक्षशिल।]

१ तक्षशिला, २ वत्सोद्धरण, ३ कौमेदुर, ४ काण्डवारण, ५ ग्रामणी, ६ सरालक, ७ कंस, ८ किन्नर, ९ संकुचित, १० सिंहकर्ण, ११ क्रोष्टुकर्ण, १२ बर्बर, १३ अवसान।

(39) Paladyādi—K. IV.2.110; Ch. III.2.20 (only 7, 10, 13, 15); J III.2.87; Bh. IV.3.29-33; H. VI.3.25-26; V.325.

Var.—1 H. omits; 2 H. omits; 3 Sakṛilloma (Bh. V. who cites Vāmana's reading Yakṛilloman); 5 Kālakūṭa (K.) J Bh. H. omit, hence reading doubtful, although it occurs in Pāṇini (IV.1.173); K. J. Bh. V. also read Kalakīṭa which may have been the original reading here; 8 H. omits; 9 Bāhukīta (K.), H. omits; 10 Naitakī (K.), Naiketī (J. H.); 11 H. omits; 14 Udayāna (K), H. omits. 19 Gaushṭhī (J.). Ch. reads 6, 7, 10, 15.

(40) Takshaśilādi—K. IV.3.93; Ch. III.3.41; Bh. IV.3. 213-214; V.351.

Var.—3 Kaimedura (J.), Kairmedura (Bh. V.); 4 Kāṇḍavāra (Ch.), Kāṇḍakāra (J.). Kāṇḍadhāra (Bh. V.); 6 Chhagalalaka and Sakala (Ch.), Chhagala (Bh. V.); 10 Siṁhakoshṭha (K.); Karṇakoshṭha (K.), Karṇa (Ch.), Kroshṭukarṇaka (Bh). Ch. combines this *gaṇa* with Sindhvādi; J. reads only 3. 4, 5; H. casually refers to this *gaṇa* in

(४१) शंडिकादि (४।३।९२)

[सोऽस्याभिजनः ञ्यः । शांडिक्यः ।]

१ शंडिक, २ सर्वकेश, ३ सर्वसेन, ४ शक, ५ शट, ६ वह, ७ शंख, ८ बोध ।

(d) *Prastha-ending names*

(४२) कर्क्यादि (६।२।८७)

[कर्कीप्रस्थः, मघीप्रस्थः]

१ कर्की, २ मघी, ३ मकरी, ४ कर्कन्धू, ५ शमी, ६ करीर, ८७ कटुक, ८ कुवल, ९ बदर ।

(४३) मालादि (६।२।८८)

[मालाप्रस्थः, शालाप्रस्थः]

१ माला, २ शाला, ३ शोणा, ४ द्राक्षा, ५ क्षौम, ६ कांची, ७ एक, ८ काम ।

the Bṛihadvṛitti of Sindhvādi but does not read it ; V. includes this in Sindhvādi.

(41) Śaṇḍikādi—K. IV 3.92 ; Ch. III. 3.60 ; J. III.3.66 ; Ś. III 1.201 ; Bh. IV.3.211 ; H. VI.3.215.

Var.—1 Śāṇḍika (Bh.) ; 5 Seṭa (K. J. Ś. Bh.), 6 Raka (K Ś H.), Raha (Bh.), Chaṇaka (J.) ; Ch. Bh. add Kuchavāra, H. Kūchavāra ; J. Godha, H. Charaṇa and Śaṅkara.

(42) Karkyādi—K. VI.2.87, relates to accent, and is not found in other systems.

(43) Mālādi—K. VI.2 88, not found elsewhere.

After 5 is read Kshāmā, which may be a variant of the same name.

(e) *Kanthā-ending names*

(४४) चिहणादि (६।२।१२५)

१ चिहण, २ मडर, ३ वैतुल, ४ पटत्क, ५ वैडालिकर्णि, ६ कुक्कुट, ७ चित्कण ।

(f) *Mountains* (गिरि)

(४५) किंशुलकादि (६।३।११७)

१ किंशुलक, २ शाल्वक, ३अंजन, ४ भंजन, ५ लोहित ६ कुक्कट ।

Forests (वन)

(४६) कोटरादि (६।३।११७)

१ कोटर, २ मिश्रक, ३ पुरग, ४ मिध्रक, ५ सारिक ।

Rivers, etc.

(४७) अजिरादि (६।३।११९)

१ अजिर, २ खदिर, ३ पुलिन, ४ हंस-कारण्डव, ५ चक्रवाक ।

(44) Chihaṇādi—K. VI.2.125.

Var.—2 also Maḍura ; 5 also Vaitālikarṇi ; 7 also Chikkaṇa.

(45) Kiṁśulakādi—K. VI.3.117 ; Ch V.2.132 ; J. IV. 3.220 ; Ś. II.2.95 ; Bh VI,2.165 ; H. VI.2.77.

Var.—Kiṁśuka (Bh.) ; 2 Sālva (Ś), Ch. omits 2, 5, 6 ; Sālvaka (Bh.) ; 4 Bhāñjana (H.) ; Ś. reads only 2, 3.

(46) Koṭarādi—K. VI.3.117 ; Ch, V.2.132 ; J. IV.3.220; Bh. VI.2.165 ; H. III.2.76.

Var.—2 Mithaka (Bh.) ; 3 Puraka (K.), Ch. J.Ś. omits; 4 Ś omits 5 Ch. J. Ś. H. omit, Śārika (Bh.).

(47) Ajirādi—K. VI.3.119 ; J. IV.3.223 ; Ś. II.2.96 ; Bh. VI.2.167 ; H. III.2.78.

(४८) शरादि (६।३।१२०)

[मतौ संज्ञायां दीर्घः । शरावती ।]

१ शर, २ वंश, ३ धूम, ४ अहि, ५ कपि, ६ मणि, ७ मुनि, ८ शुचि ।

Var.—3 Alina (J.), Sthalina (Bh.); 4 only Kāraṇḍava (J.), Malya, Kāraṇḍava (Bh.). H. says it is an *ākṛiti gaṇa*. Ś. reads only 1, 2.

(48) Śarādi—K. VI.3.120; Ch. V.2.134; J. IV.3.223; Ś. II.2.96; Bin. VI.2.167; H. III.2.78; V.143.

Var.—5 Kavi (Bh.); 7 Manya (Bh.). K. Ś. Bh. V. add Hanu. Ch. calls it an *ākṛiti gaṇa*. H. Bh. V. add Kuśa; H. also Vārda, Veṭa; also Ṛishi. Ś omits 2, 3, 7.

APPENDIX III

GOTRAS

GOTRA EVIDENCE—The evidence about Gotras furnished by the *Ashṭādhyāyī* is of great value, since it is an authentic record going back to the Sūtra period when these lists were compiled. There were three major institutions, namely, *Charaṇa* (Vedic School), *Janapada* (Political State), and *Gotra* (Social Family), allegiance to which was an important factor in the life of an individual. Appellations derived from these three factors formed an essential part of the written and spoken language of Pāṇini's time, and therefore he addressed himself to this class of evidence in a detailed manner. We have dealt with the first two in the earlier chapters, the last one is presented now.

PRACTICAL VALUE OF GOTRA-NAMES—The Gotra-name of an individual was of great practical importance for determining his true position in the democratic social assemblies which functioned for several purposes and at several levels. Family as a unit of social organisation was placed at the centre of things and each individual was required to take his social rank through the Family. The privilege of both political and social representation devolved on the individual through his being either the head of the family or its junior member. The original founders of the Gotras were a thing of the past, but the memory of their descendants or their family lineage was vividly kept up and zealously guarded as being of vital value for regulating both family and social relationships. For example, some great ancestor of remote antiquity was named Garga. The epithet Garga had long ceased to be applied to any one, and all the male descendants carried the distinctive title of Gārgya as an essential part of their names. Each family functioned as a unit with a Patriarch (*Kula-vṛiddha*)

as its head for the time being. He would be called Gārgya. All other younger members related to him would be named as Gārgyāyaṇa. Generally the elder member called Gārgya would represent the family both in the social and state assemblies. During his life-time only on rare occasions would any junior or younger member be permitted by special sufferance to go out as representative of the family. When the head of the family ceased to function the next junior member called Gārgyāyaṇa was publicly promoted to hold the title of Gārgya and this occasion was marked by an impressive ceremony of *Mūrdhābhisheka,* the anointing ceremony or religious bath of which the detailed ritual was very much the same as in the case of royal coronation.

MŪRDHĀBHISHEKA—Fortunately this ceremony of consecrating the head of the family has come down up to our own times. All the relatives on the father's and mother's side assemble on the occasion, each presenting a turban or crown to the new elected head of the family. The person being elevated to the new title of *Kula-vṛiddha* observes great solemnity, undergoes a purificatory bath, puts on new dress, receives public obeisance from the relatives and friends present on the occassion each one of them putting a *tilak* mark on his forehead. Even those who are not able to be present communicate their approval through a deputy. This ceremony of *Pagrī bāndhanā* has preserved all the essential elements of the ancient *Mūrdhābhisheka.* In ancient times each family descendant who had undergone this ceremony—and it was inevitable for every one in the normal course to go through it—was known as *Mūrdhābhishikta Vaṁśya* i.e. a duly consecrated family head. The word *Vaṁśya* was synonymous with *Gotra* and *Kula-vṛiddha.* The younger* members in comparison to him bearing the epithet Gārgāyaṇa were known as *Yuvā.* There could

* यावद् ब्रूयाद् गोत्रं यूनेति तावद्वृद्धो यूनेति । पूर्वसूत्रे गोत्रस्य वृद्धमिति संज्ञाक्रियते । (भाष्य १।२।६८)

be many Yuvā descendants called Gārgāyaṇa but only one Gārgya at one time in a family unit.

The practical results of such an organization were extremely significant; for example, it was the Gārgya Patriarch who represented his family in the social assemblies which wielded great influence and power. It was he who held the property in his name and who negotiated the social relationships. He was virtually the family for both customary and legal observances. The *Kula-dharmas* and *Jāti-dharmas* found their fruition through the *Gotra*, *Vaṁśya*, *Kula-vriddha* or *Sthavira*. This picture of a vital social organization current in Pāṇini's time underwrites the profuse evidence about Gotra and Yuvan names of which he had *per force* to take notice and which forms such an important chapter in the *Ashṭādhyāyī*.

Those who were connected as blood relations to the same male lineage were called *Sagotras* (VI. 3. 85). Fortunately valuable Gotra lists were compiled sometime before Pāṇini and they are preserved in the several Śrauta-sūtras, for example Āśvalāyana, Āpastamba, Kātyāyana and the most important of them all in the Baudhāyana Śrauta-sūtra, named as Pravara-praśna.[1]

ORIGINAL GOTRA-FOUNDERS:—According to the tradition recorded in the above texts the descendants of the Eight Sages constituted separate Gotras. Their names were Viśvāmitra, Jamadagni, Bharadvāja, Gautama, Atri, Vasishṭha, Kaśyapa and Agastya. The number of such descendants could be counted in thousands and even

1. This is critically edited by Dr. Caland in the Bibliotheca Indica Series, Vol. III, pp. 415-468.

This material was put into verse in the Matsya Purāṇa, Chapters 194-201. Among subsequent writers Purushottama compiled the evidence from the above sources with a detailed commentary in his *Pravara-mañjarī*, which was published along with other kindred texts under the title of '*Gotra-pravara-nibandha-kadamba*. The *Pravara-mañjarī* has been studied by Dr. Brough.

millions. Patañjali confirms this traditions in his discussion on *sūtra* IV. 1. 79.

अष्टाशीतिः सहस्राण्यूर्ध्वरेतसामृषीणां बभूवुस्तत्रागस्त्याष्टमैर् ऋषिभिः प्रजनोऽभ्युपगतः। तत्रभवतां यदपत्यं तानि गोत्रम् (भाष्य ४।१।७९)

'There were 88,000 sages devoted to a life of celibacy. Of them seven sages with Agastya as the eighth took to the way of procreating. Their descendants are known as Gotras'.

According to a different tradition Brahmā had four sons, namely Bhṛigu, Aṅgiras, Marīchi and Atri. In Bhṛigu's line was born Jamadagni who became a Gotrakāra Ṛishi. In the line of Aṅgiras there were two Gotrakāra Ṛishis, namely Gautama and Bharadvāja. In the family of Marīchi there were three Gotrakāra ancestors, viz. Kaśyapa, Vasishṭha and Agastya. The fourth son Atri himself became a Gotra-progenitor thus these seven or eight primeval ancestors were traditionally remembered as founders of Gotras.

PĀṆINI AND GOTRAS–The above list of the eight original Gotras is confirmed by Pāṇini in the principal *sūtras* of the *Ashṭādhyāyī* as shown below :

1. Bhṛigu (IV. 1. 102), He was an ancestor of Jamadagni.

2. Kauśika (IV. 1. 106), same as Viśvāmitra.

3. Aṅgiras (IV. 1. 107-108).

4. Bharadvāja (IV.1.117).

5. Atri (IV.1.117).

6. Kaśyapa (IV.1.124).

7. Vasishṭha (II.4.65). As an original Gotra standing at the head of a Gaṇa Vasishṭha is clearly referred to in

the Gaṇapāṭha of Naḍādi[1] (IV. 1. 99) and Śubhrādi[2] (IV. 1. 123).

8. Agastya (II.4.70), which becomes *Agastyaḥ* in the plural as found in Baudhāyana (BŚS. p. 463).

VAMŚYA AND YUVĀ—These are two important terms and their distinctions in practical life and the grammatical formation of names should be clearly understood in order to grasp the significance of *sūtras* 4.1.163–165. Vaṁśya literally signifies one who was the founder of a family or from whom the family derived its lineage and surname. It was thus inclusive of the word Vṛiddha and Gotra. Patañjali informs us that Vṛiddha was a technical term in a different system of grammar equivalent to Pāṇini's Gotra (पूर्वसूत्रे गोत्रस्य वृद्धमिति संज्ञा क्रियते, Bhāshya, I. 2. 68).

Let us understand these relationships by taking a practical example. Garga happened to be an ancestor who started a line of descendants. He was a Saṁjñā-kārin i.e. who gave his name to the family, and was regarded by all the subsequent descendants as the original founder. His son was known as Gārgi, called in grammar Antarāpatya. The grandson of Garga or the son of Gārgi was known as Gārgya. According to this *sūtra* (IV.1.162) all other descendants numbering even a hundred or a thousand would be known as Gārgya (पौत्रप्रभृतिमपत्य). For example:—

1. *Krishṇa Raṇau Brāhmaṇa-Vāsishṭhe*, i.e. the Gotra-descendant of Raṇa was called Rāṇāyana if in the Vasishtha Gotra, otherwise Rāṇi. Baudhāyana quotes Rāṇi among the Śāradvata-Gautamas. This Gaṇa-sūtra is confirmed by the *Chāndra-vritti* (Sūtra II 4.35) and Vardhamāna (Śloka 236).

2. *Lakshamaṇa Śyāmayor Vāsishṭhe*, confirmed by *Chāndra-vritti* (II.4.53) and Vardhamāna (Śloka 222). The authenticity of these Gotra names is vouchsafed by Baudhāyana who reads Lākshmaṇeya and Śyāmeya (pp. 460, 463) among the Vāsishṭhas (*Baudhāyana Śrauta-sūtra*, Bibliotheca Indica edition by Dr. Caland).

Garga (संज्ञाकारिन्)
|
(Son) Gārgi (अन्तरापत्य)
|
(Grandson) Gārgya (गोत्रापत्य)
|
(Great Grandson) Gārgya (गोत्रापत्य), but गार्ग्यायण as युवापत्य

The grandson and his descendants were all entitled to be called Gotra or Vṛiddha with respect to succeeding generations so far as current family social institutions were concerned. Some remote ancestor who was named Garga had now ceased to exist and was not seen by the living generations but his decendants from his grandson onwards all named Gārgya were known to the people. Each family head was called a Gārgya. There might be hundreds of families existing at one and the same time in a single generation and the title Gārgya would continue to be applied to each head of the family through subsequent generations. Each Patriarch bearing the appellation Gārgya would represent his family in all domestic, social and political matters. He was the real head of the family. His personal name perhaps would be different and was not material with respect to his status. But the Gotra-name was a very important matter for all.

When Gārgya was alive as the head of the family, what would be the epithet of his son, grandson and other descendants? This was an important question. The answer is that by *sūtra* IV.1.162 they would be called Gārgya, being entitled to the status of a Gotra-name. Theoretically it may have been correct but in practical life the son of Gārgya in the life-time of his father as well as the grandson in the life-time of his grandfather would be called Gārgyāyaṇa, since he was a junior member of the family (*Yuvan*) in comparison to the Vṛiddha or Gotra or Vaṁśya who was alive. This provision is laid down in the *restrictive sūtra* IV.1.163, *Jīvati tu vaṁśye yuvā*. The effect

of this distinction of the names would be that Gārgya was recognised as a representative of the family, where as Gārgyāyaṇa was not so recognised during the life time of his father Gārgya. It may also be noted that in case when the father was alive and his son was dead, the grandson would be entitled to the epithet Gārgyāyaṇa :—

(Father, living) Gārgya (गोत्र or वंश्य)
|
(Son, living) Gārgyāyaṇa (युवापत्य)

A question again arises as to the status of a younger brother if his elder brother was alive, when the father of both was dead, whether the younger brother would be called Gārgya or Gārgyāyaṇa. By *sūtra* IV 1. 162 the younger brother being included under *pautra-prabhṛiti-apatya* (grand-sons and descendants) would theoretically be entitled to be epithet Gārgya. But in practice since at one time there could only be one Gārgya in one family the younger brother would be treated as a *Yuvan* and called Gārgyāyaṇa by the *sūtra, bhrātari cha jyāyasi* (IV. 1. 164) ; e.g.,

(Father, dead) Gārgya

(Elder brother, alive)	(Younger brother, alive)
Gārgya (गोत्र)	Gārgyāyaṇa (युवा)

A further new situation required to be regulated when an uncle or grand-uncle or great-grand-uncle was alive and the father Gārgya was dead. The status of both the son of Gārgya (who was uptil now called Gārgyayaṇa) and of the uncle or other similar superior *sapiṇḍa* was to be expressed by means of their family surnames. Pāṇini's *sūtra* IV. 1. 165 (वान्यस्मिन्सपिण्डे स्थविरतरे जीवति) prescribes that the son of the dead Gārgya would be called both Gārgya and Gārgyāyaṇa ; e.g.,

(1) Gārgya (dead) — (2) Gārgya (living) Brother of (1) and uncle of (3)

(3) Gārgya (living) as son of (1), but Gārgyāyaṇa as nephew of (2)

The *rationale* of these two epithets being applied simultaneously to one and the same descendant should be understood as follows. In respect to his father who was dead and to whose place the son was elevated as the head of his family, the son who was formerly Gārgyāyaṇa now became *mūrdhābhishikta* and was given the title Gārgya with the power of representing his family. But if he had a venerable uncle and he wanted his family to be represented through his uncle then he would be regarded as a junior member (*yuvan*) and would bear the title Gārgyāyaṇa. This distinction was of practical value in the domestic and social affairs of a joint family where the property was held in the name of the head and the state also carried its dealings through the Patriarch. It was in such a situation that the Uncle or a similar elderly cognate relation came into the picture of the family to such an extent as to have effect on the status of the new member through the Gotra or Yuvan name of the latter. If the Uncle so desired he would ask the nephew in the capacity of a Gārgya to represent the family. If the nephew wished, he as Gārgyāyaṇa would ask his uncle to deputise for him. Both these alternatives are met by sūtras IV. 1. 165.

PĀRIBHĀSHIKA AND LAUKIKA GOTRAS—The grammarians have distinguished two kinds of Gotras in the *Ashṭādhyāyī*, viz. Pāribhāshika Gotras and Laukika Gotras, the former are included in the Apatyādhikāra of the first Pāda of Adhyāya IV :

Apatyam pautra-prabhṛiti gotram (IV.1.162)

It lays down that all descendants of a Patriarch from his grandson onwards are known as *Gotra*, for example, Garga

is such an ancestor. His son was Gārgi and grandson received the patronymic name Gārgya. The descendants lower than a grandson were also called Gārgya, but in the three cases specified in *sūtras* IV.1.163-165 they were known as Gārgāyaṇa as explained above.

It should be noted that the above distinctions of name-forms like Gārgya and Gārgyāyaṇa to indicate the status of a particular person in the family either as its head (*Gotra*) or as a junior member (*Yuvā*), have been set in a rigid grammatical mould by Pāṇini, to which the commentators have given the title of *Pāribhāṣhika* Gotra. It is clearly stated by them that outside this particular chapter of the *Apatyādhikāra* initiated by the *sūtras* IV.1. 98-111 and referred to in the *sūtras* IV.1.162-166 (*Apatyaṁ pautra-prabhriti gotram*), all other Gotra names in the *Ashṭādhyāyī* have reference to *Laukika Gotras*. This is clearly stated by Patañjali* :

'In all other places excepting the Apatya-chapter Pāṇini intended Gotra to be understood in a general sense in which all descendants of an ancestor including the Yuvans were termed Gotra.' Kaiyaṭa explains *Laukika Gotra* as the descendants of wellknown Ṛishis, who are famous as Gotras in society (*Loke rishi prajanaścha gotram ityuchyate*, IV.1.87). According to Patañjali, Pāṇini refers to *Laukika Gotras* in *sūtras* II.4.64-70. The position is that the names of Gotras in the above *sūtras* and their Gaṇapāṭha are the same which occur in the Gotra lists of the Pravara-Adhyāya. For example, Yaska, Paila, Upaka were such Gotras named after the ancient Ṛishis. The problem whether the Gotra-names in the Pāṇinian lists were to be strictly confined to the exigencies of grammatical operations or whether the names were susceptible of a wider

***Vart.*— राजन्याद्वुञ् मनुष्याच्च ज्ञापकं लौकिकं परम् ।

Bhāṣya—तज् ज्ञापयत्याचार्यो लौकिकं परं गोत्रग्रहणमिति ।

युवा च लोके गोत्रमित्युपचर्यते (भाष्य ४।१।९०, II. 244).

general application was a matter of some concern to the ancient commentators from Kātyāyana to Kaiyaṭa. The concensus of their opinion seems to be that these names whether in the Apatyādhikāra or elsewhere partake of a Laukika character and names of Gotras in such Pāninian *sūtras* as Bāhvādi (IV.1.96) and others must be taken in a broad general sense being applicable to such names well known in society.[1]

For our purpose of historical interpretation we are inclined to accept this liberal point of view and to consider the Paninian lists of Gotras as conveying a factual picture of the social organization comprising Brahminical families with Gotra appellations as recorded also in the Pravara-kāṇḍa. As a matter of fact the valuable lists preserved in the Pravara-praśnas all refer to Laukika Gotras free from the shackle of grammatical operations laid down in the Apatyādhikāra.

NEW GOTRA-FOUNDERS—As stated above originally there were 8 Ṛishis said to be founders of Gotras. In *sūtra Eko gotre* (IV.1 93) refers to the first founder as *Eka*, interpreted by Patañjali as *Prathama* and by Kātyāyana with greater clarity as *Saṁjñā-kārin*, i.e. a distinguished ancestor who first imparts a name to his lineage as his natural in course of time in the same line of descendants. Other persons of distinction and learning were born who were considered to possess the dignity of Gotra-founder and they in turn became *Saṁjñā-kārin* of new Gotras recknoned as branches under the original Gotra. For example, under the Bhṛigu Gotra several new Gtras arose, e. g. Vatsas, Bidas, Yaskas, etc. The teacher Vatsa won such distinction as to have himself become the originator (*Pratham*) of a new line designated

1. बाह्वादिप्रभृतिषु येषां दर्शनं गोत्रभावे, लौकिके ततोऽन्यत्र तेषां प्रतिषेधः, (Vart. 1 on IV.1.96).
Kaiyaṭa, *laukika* = *loka-vidita* ;
gotra-bhāva = *saṁjñā-kāritva*.

after him but by common consent grouped as a branch of the original Bhṛigu Gotra. A member of the Vatsa Gotra was called Vātsya Bhārgava.

A third stage was reached when among the Vatsas also new Gotra-founders were born. For example, Paila Kāśakṛitsna, Aitiśāyana and many other sub gotras came to flourish under the Vatsa branch of the Bhṛigu Gotra. At times we find that hundred of such names are recorded in the traditonal Gotra lists of the Śrauta-sūtras. This evolution should have taken many centuries. The lists preserved in the Śrauta-sūtras of Baudhāyana, Āśvalāyana and Kātyāyana bear testimony to the fact that at the time when they were compiled the process of Gotra development had advanced to a very elaborate stage with intricate implications about social relationships. In the grammatical literature we have some indication of the long period involved in the development of the Gotra institution. For example, Pāṇini himself had to formulate a *sūtra* for expressing this fact of social life. The *sūtra Saṁkhyā vaṁśyena* (II.1 19), is intended to regulate such formations, and is quoted in the Bhāshya on *sūtra* II.4.84, with an illustration *Tripañchāśad-Gautamam* (Bhasya I.499), i.e. 53 generations in the Gautama Gotra. If twenty years be taken for a generation then the period of 53 descendants in the line of Gautama extended over a period of more than 1000 years. We do not exactly know when this example to Pāṇini's *sūtra* II.1.19 came into existence, but if we accept it as a *mūrdhābhishikta udāharaṇa* we may count back from Pāṇini and arrive at about 1500 B. C. when the first ancestory of the Gautamas began. Thus a period of ten centuries seems to be well postulated for the development of the Gotra institution as we find it in the *Ashṭādhyāyī* and in the Pravara-praśnas.

PĀṆINI AND BAUDHĀYANA—A comparison of Gotra-names in Pāṇini and in Baudhāyana shows that the two lists were rooted in solid fact and present material from the same cultural epoch. Many of the names are common.

Sometimes we find that the coincidence is very striking. For example, the reading *Ātreya Bhārdvāje* and *Bhardvāja Ātreye* in one and the same Gaṇa, Aśvādi (IV. 1.110) is fully borne out by Baudhāyana. He includes the Ātreyāyaṇas among the Bharadvajas and the Bhārdvājāyanas among the Ātreyas. Similarly the *Antargaṇa-sūtra Lakshmaṇa śyāmayor vāsishṭhe* read in the Śubhrādi gaṇa (IV.1.123) is corroborated by Baudhāyana who reads the Lākshmaṇeyas in the Upamanyu section of the Vasishṭhas, and the Śyāmeyas among the Śyāma-Parāśara branch of the Vasishṭhas (BŚS 460. 463).

From the cultural point of view all the Gotra-names in the *Ashṭādhyāyī* are worth studying without importing the consideration of *Laukika* and *Shāstrīya*. The author of the *Nyāsa* commenting on II. 4.63 observes that the grammatical rule *Aptyaṁ pautra-prabhṛiti gotram* (IV. 1.162) is wrongly regarded by some to be *Sāstrīya* and not *Laukika*. In reality it is not so because both interpretations are valid in Paninian grammar where the *sūtras* imply a two-fold application. The *Bāla-manoramā* commenting on the *sūtra Yaskādhibhyo gotre* (II.4.67) remarks that the Gotra here refers to all those names which are included in the Pravara-kāṇḍa and that it has no restriction to the grammatical Gotras under Apatyādhikāra only.

Besides Brahmanical Gotras called Ārsha Gotra, Pāṇini also recognised the purely Kshattriya Gotras (*sūtra* II.4.58), e. g. Śvāphalka, a Kshattriya Gotra name. Many such family names existed at that time independently of the Ṛishi tradition of Gotras and were derived from either Kshattriya, or Vaiśya ancestors, or even amongst other castes from such celebrated persons as became *Saṁjñākārins* in their own line.

GOTRĀVAYAVA :—Such secondary Gotra-names have been designated as *Gotrāvayava* by Pāṇini (IV. 1. 79). They were secondary family sur-names which did not form part of the Pravara-kāṇḍa lists. At the same time Pāṇini as a

grammarian had to take note of them, since those names also formed part of the language. The word *Gotrāvayava* was taken as *Kulākhyā* by the Bhāradvāja school (*Bhāshya*, IV. 1. 79), interpreted by the *Kāśikā* as names of individual families (*Apradhānagotra*); for example, Kuṇika, Bhuṇika, etc. The names enumerated in the *Krauḍyādi-gaṇa* of *sūtra* IV. 1. 80 were taken by Kātyāyana and Patañjali to be names of this nature. There were surely thousands of others too numerous to be brought within the scope of the *Ashṭādhyāyī*. As a matter of fact each caste amongst the tribes of the north-west as were non-Brahminical claimed to have their family surnames which would fall under the *Gotrāvayava* category (कुलाख्या लोके गोत्रावयवा इत्युच्यन्ते, Patañjali commenting on a Bhardvajīya vārttika on *sūtra* IV. 1. 79, गोत्रवयवात्). Sometimes the same surnames served both as Prāhmaṇa Gotras and as non-Brāhmaṇa Gotras. A distinction between the two had then to be made with the help of a suffix.

SAUVĪRA GOTRAS—Pāṇini makes a pointed reference to the Gotra names in the Sauvīra country (IV. 1. 148-150). Sauvīra was a Janapada with capital at Roruka, modern Rori and may be identified with Upper Sind. The modern Sindhi surnames end in *ānī*, like Vasvānī, Kripalānī, Asarānī, Santānī, etc., and these seem to be derived from the ancient forms ending in *āyani* as Āsurāyaṇi, Yamundāyani. A specific mention of two Sauvīra Gotras is made in *sūtra* IV. 1. 150, e.g. Phāṇṭāhṛiti-Phāṇṭāhṛitāyani, and Maimata-Maimatāyani.

POLITICAL CHARACTER OF THE GOTRAS:—We have seen how the Saṅghas wielded political power and adopted heraldic signs (*Lakshaṇa*) and legends (*Aṅka*) engraved on their coins and sealings. This privilege of getting organised after the model of a political Saṅgha was appropriated by non-political bodies also, for example, the Vedic Schools called Charaṇa, which were represented by so many living persons in society and existed with

extensive ramifications. So also were the Gotras. Both the Charaṇa and Gotra members gave to themselves a Saṅgha organization, choosing their distinctive *Aṅka* and *Lakshaṇa*, as mentioned in *sūtras* IV. 3. 126-127. The republican spirit of free association and of strong communal ties and affiliation found their fullest scope in Pāṇini's time. We know how 'the descendants' (*Putras*) of Sāvitrī and Satyavān multiplied as so many families whose clan developed into the Sāvitrī-Putraka Saṅgha of the Panjab. Similarly in another area the strong fraternity of the Daksha Gotra constituted themselves into a Saṅgha with their own sign and legend. This would apply to any Gotra or any Charaṇa who wished to functon as such. This spirit to follow the Saṅgha model was infectious specially in the Panjab in Pāṇini's time, and applied equally well to the three institutions of Saṅgha, Charaṇa and Gotra.

We now give below a critical text of the Pāṇinian Gotra-lists reconstructing the text on the basis of the Kāśikā (का०), Chandra (च०), Jainendra (जै०), Śākaṭāyana (शा०), Vardhamāna (व०), Bhoja (भो०), and Hemachandra (हे०) as we had donein the case of the geographical lists.

१ अश्वादि (४।१।११०)

[अश्वादिभ्यः फञ् । आश्वायनः ।]

Text—१ अश्व, २ अश्मन्, ३ शंख, ४ बिद, ५ पुट, ६ रोहिण, ७ खर्जूर, ८ पिञ्जूर, ९ भडिल, १० भण्डिल, ११ भडित, १२ भण्डित, १३ भण्डिक, १४ प्रहृत, १५ रामोद, १६ क्षत्र, १७ ग्रीवा, १८ काश, १९ गोलाङ्क, २० अर्क, २१ स्वन, २२ ध्वन, २३ पाद, २४ चक्र, २५ कुल, २६ पवित्र, २७ गोमिन्, २८ श्याम, २९ धूम, ३० धूम्र, ३१ वाग्मिन्, ३२ विश्वानर, ३३ कुट, ३४ आत्रेय, ३५ भीष्म, ३६ अर्ह, ३७ विशम्र, ३८ विशाल, ३९ गिरि, ४० चपल, ४१ दासक, ४२ वैल्य, ४३ धर्म, ४४ आनडुह्य, ४५ पुंसिजात, ४६ अर्जुन, ४७ शूद्रक, ४८ सुमनस्, ४९ दुर्मनस्, ५० क्षान्त, ५१ कित, ५२ काण, ५३ चुप,

५४ श्रविष्ठा, ५५ वीक्ष्य, ५६ उत्स, ५७ आतव, ५८ कितव, ५९ शिव, ६० खदिर, ६१ ॥ आत्रेय भारद्वाजे ॥ ६२ ॥ भारद्वाज आत्रेये ॥

References—का० ४।१।११०; च० २।४।३१; जै० ३।१।९९; शा० २।४।४३; भो० ४।१।६०–६८; हेम० ६।१।४९; गण० श्लो० २३९–२४३ ।

Variants—४ विद (जै० शा० भो० हे० ग०), ७ खर्ज्जूर, खर्जूल (का०), खर्जुंल (शा०), खर्जुल, खर्जूल (हे०); ८ पिङ्गल (च०), पिण्डूर (भो०); ९ वटिल (जै०); ११ भदित (शा०); १३ भाटिक (शा०); १४ प्रकृत (जै०), प्राघृत (शा०); १५ रामोद्द (शा०), रामोद, रामोदक्ष (हे०); १६ क्षात्र (च०); क्षान्ध (शा०, हे०); १७ ग्रीवक (शा०); १८ आकाश (च०) १९ गोलाङ्क्य (का०), गोलाक्ष (जै०), गोनाह्व (शा०, हे०), गोबाह्व (भो०); २१ श्वन। शुन (शा०) २३ पद (हे० शा०); २५ कुलपीत्रा (हे०); २६ पवित्रा (च० भो० ग०), पाचित्र (शा०), पवित्रा, पावित्र, पावित्तु (हे०); २७ मोमिन् (हे०); २८ शाम (शा०); ३१ वाग्मि (ग०); ३२ विश्वम्भर (जै०), विश्वतर (शा०); ३३ कुटश (च०), कुकुटा (शा०); ३४ आत्रेय। शपादात्रेये (च०), शपादात्रेये (जै०), शपआत्रेय (भो०); ३७ विसम्प (जै०); ३८ विशाला (का०), विश्याला (जै०); ४१ दास (जै०); ४२ वैल्य (जै०, हे०); ४३ घर्म्य (च० हे० ग०), घाप्य (जै०); ४४ शा० omits; ४५ धार्योजात (शा०), ग० omits; ४७ शूद्रक। सूद्रक (जै०), शूद्र (भो०); ४९ शा० omits; ५० च०, शा०, जै०, हे० omit; ५१ च०, जै०, शा०, भो०, हे० omit; ५२ शकाण (शा०), काल (भो०), काणगोल (हे०); ५३ चुम्प (का०, च०), भो० omits; ५४ श्रविष्ट (जै०); ५५ वीक्ष (शा० भो० हे०), जै० omits; ५६ कुत्स (का०); ५७ अतव (च०), भाख (शा०); ५८ किव (शा० हे०); ५९ खिव (शा०), भो० omits; ६१-६२ शा०, हे०, ग० omit.

Additional names—वेश, नत्त, तड, मड, प्राच्य (का०);

वत (च० हे०); वात (जै०); वन (च० शा० हे० ग०); जड (च०, भो०, हे०); तुल (च०), खड्गार (जै०); भटल (जै०); स्फुट (जै० ग०); चुटि (जै०); जनक (जै० ; सनक (जै०); खनक (जै०); वीज (जै०); रीक्ष (जै०) ; वैश्य (जै०), बुद्ध (जै०), पत (जै० हे०), जन (शा०, हे०, ग०); भटक (शा० हे०) ; गद (शा० ग० हे०) ; वत्सनख (शा०), चैत्य (शा०); धन्य (भो० हे० ग०), बस्त (हे० भो० ग०), प्राहुत (भो०), प्राहुतराम (हे०); विव, खिप, भंदिल, भटिल, अन्धग्रीव, आह्व, उत्सानव, विश्वतर, गिरिचपल, गदजण्ड, चुपदासक, धाप्य, सन, (हे०), सनख (हे० ग०), नम (भो० ग०), शुन (हे० ग०), पिङ्गल (ग०), खड (हे० भो० ग०) ।

२ उपकादि (२।४।६९)

[उपकादिभ्योऽन्यतरस्यामद्वन्द्वे । औपजायना., उपकाः]

Text—१ उपक, २ लमक, ३ भ्रष्टक, ४ कपिष्ठल, ५ कृष्णाजिन, ६ कृष्णसुन्दर, ७ पण्डारक, ८ अण्डारक, ९ गडुक, १० सुपर्यक, ११ सुपिष्ट, १२ मयूरकर्ण, १३ खारीजङ्घ, १४ शलाथल, १५ पतञ्जल, १६ कठेरणि, १७ कुषीतक, १८ काशकृत्न, १९ निदाघ, २० कलशीकण्ठ, २१ दामकण्ठ, २२ कृष्णपिङ्गल, २३ कर्णक, २४ पर्णक, २५ जटिलक, २६ बधिरक, २७ जन्तुक, २८ अनुलोम, २९ अर्द्धपिङ्गलक ३० प्रतिलोम, ३१ प्रतान, ३२ अनभिहित ।

References—का० २।४।६९; च० २।४।११४; जै० १।४।१३९; शा० २।४।११४; भो० ४।१।१९२-९४, हे० ६।१।१३० गण० श्लोक २८-३१ ।

Variants—४ शा० omits; ६ ग० omits; ७ all others omit except का०; ८ अकडारक (जै०), अडारक (हे०), च० शा० omit ; ९ जै० हे० शा० omit ; १० सुपर्यक । सुपर्यक (जै०), च० शा० भो० हे० ग० omit; १२ शा० भो० हे० ग० omit ; १३ खरिजङ्घ (भो०), शा० omits, १५ च० omits ; १६ कण्ठेरणि (जै०), करेरिति (शा०),

कठेरण (भो०), कठेरित (हे०); १७ कुषीतकी (च०), कुशीतक (शा०), शीतक (भो०); १८ कासकृत्स्न (जै०), कशकृत्स्न (शा० हे०); १९ च०, शा०, हे० omit.; २० कलशीकण्ठ (जै०); २१ दासकण्ठ (शा०); २२ च० omits.; २६ वधिरक (जै०, शा०); २७ जन्तु (भो०), जतुक (हे० ग०); २९ पिङ्गलक (जै० शा० हे० ग०), पिङ्गल (भो०), च० omits.

Additional names:—

चूडारक (का० टि०, ग०), चडारक (भो०); उटङ्क (का० टि०), उदङ्क (ग०), उट्टक (जै०); सुधायुक (का० टि० ग०), सुधायुग (भो०); प्रबन्धक (का० टि०, ग०); पदश्चल (का० टि०), पदजल (हे० ग०); अवम्नक. (शा०); अनुपद (का० टि०, च० भो०, हे०, ग०); अपजग्ध (का० टि०, शा० भो० हे० ग०); कमक (का० टि०, ग०), कनक (हे०); लेखाभ्र (का० टि०), लेखाभ्रु (भो०), लेखाभ्रः (हे०, ग०); पिञ्जल (का० टि०), पिञ्जनक (च०), कपिञ्जलक (जै०), पिञ्जुलक (शा०), पिञ्जूलक (हे० ग०); कमन्दक (का० टि० जै० हे० ग०); मदक (शा०), मसूरकर्ण (शा० भो० का० टि०), मसुरकर्ण (ग०, हे०); मदाघ (का० टि० हे० ग०), मदाढ्य (शा०); कदामत्त (का० टि०, च० ग०); पिष्ट (च०, शा०, भो०, हे०, ग०); वडारक (च०, जै०); पतञ्जलि (च०, हे०); प्रभुक्तक (जै०); सुत्रमंक, प्रविरग्ध, शालाजङ्घ (जै०); वटारक (शा० हे०); अरट्टक, जलदेजलक (शा०); खरीखन (शा० हे० ग०); कमन्तक (हे० ग०), प्रभिहित (हे०); कवन्तक (हे०, ग०); प्रडडुक, प्रवब्बक, कठेलिति (हे०); वर्णक (हे०, ग०); चतुरक (ग०)।

३. कण्वादि (४।२।१११)

[कण्वादिभ्यो गोत्रे । काण्वारछात्राः]

गर्गाद्यन्तर्गणः

See No. 6. गर्गादि

४. कुञ्जादि (४।१।९८)

[गोत्रे कुञ्जादिभ्यश्च्फञ् । कौञ्जायन्यः]

Text—१ कुञ्ज, २ ब्रध्न, ३ शङ्ख, ४ भस्मन्, ५ गण, ६ लोमन्, ७ शठ, ८ शाक, ९ शाकट, १० शुण्डा, ११ शुभ, १२ विपाश, १३ स्कन्द, १४ स्कम्भ ।

References—का० ४।१।९८, च० २।४।३३, जै० ३।१।८७, शा० २।४।३१, मो० ४।१।९६, हे० ६।१।४७, गण० श्लो० २४५ ।

Variants—२ वध्न (जै०); ७ शट (शा० मो० हे० ग०); ८ शा० omits ; ९ all others omit except का०; १० शौण्ड (जै०); ११ शुभ्रा (च०), शुभ्रा (शा० हे०); १२ विपास् (जै०), विपाश् (शा० हे०), मो० omits.; १३ स्कन्दभ (जै०), स्कन्ध (हे०); १४ स्तम्भ (का०), जै० omits.

Additional names—शुम्भा (का० टि०), शुभंया (का० टि०), शिव (का० टि०, जै०), विश (मो०) ।

५. कुर्वादि (४।१।१५१)

[कुर्वादिभ्योण्यः । कौरव्यः]

Text—१ कुरु, २ गर्ग, ३ मङ्गुष, ४ अजमारक, ५ रथकार, ६ वावदूक, ७ सम्राजः क्षत्रिये ॥, ८ कवि, ९ मति, १० वाक्, ११ पितृमत्, १२ इन्द्रजालि, १३ दामोष्णीषि, १४ गणकारि, १५ कैशोरि, १६ कापिञ्जलादि, १७ कुट, १८ शलाका, १९ मुर, २० एरक, २१ अभ्र, २२ दर्भ, २३ केशिनी, २४ वेन (छन्दसि), २५ शूर्पणाय, २६ श्यावनाय, २७ श्यावरथ, २८ श्यावपुत्र, २९ सत्यंकार, ३० वडभीकार, ३१ शङ्कु, ३२ शाक, ३३ पाथिकारिन्, ३४ मूढ, ३५ शकन्धु, ३६ कर्तृ, ३७ शाकिन्, ३८ इनपिण्डी, ३९ वामरथ ।

References—का० ४।१।१५१, च० २।४।८४, जै० ३।१।३८, शा० २।४।८०, मो० ४।१।१४४-१५३, हे० ६।१।१००, गण० श्लो० २०८-२११ ।

Variants—२ गर्गर (शा० भो० हे० ग०); ३ मञ्जूष (च० शा०), मद्रुष (भो०), मञ्जूष (हे०); ४ अजमार (च० भो०), अतिमारक (जै०), अधिमारक (शा०); ५ रथकाराज्जातौ (जै०); ६ all others omit except का०;७ शा० हे० ग० omit; ९ मति । मतिमत (हे०), मतिमत (शा०), विमति (ग०), जै० omits; १० वाच् (हे०), जै० शा० omits; ११ ग० omits; १२ ऐन्द्रजालि (च० जै० हे०), ऐन्द्रताली (शा०), ग० omits; १३ दामोल्लोषि (जै०), दामोष्किषी (शा०); १४ च०, भो० omit; १५ कैसौरि (जै०), कैशोरी (शा०), किशोर (भो०); १६ कापिजलादि (जै०), कापिञ्जला (शा०); १७ कूट (चा०), कुड (भो०), शा० omits; २० एडका (च०), एमुक (जै०), एरका (हे०), शा० omits; २१ च० जै० शा० हे० omit; २२ दभ्र (भो० हे० ग०), जै० omits; २४ जै० शा० हे० omit; २५ सूर्पणाय (जै०, हे०); २६ भो० omits; २७ च० omits, २८ श्यापुत्र (हे०, ग०) शा० omits; ३० च० omits; वडभिःकार (जै०), वलभिकार (शा०), वलभीकार (हे०); ३१ जै० शा० हे० omit; ३२ शाकम्भू (च० भो०) शाकभू (हे०), जै० omits; ३३ पथिकारिन् (जै० हे०), पतिकार (भो०); ३४ शा०, हे० omit; ३५ च० जै० शा० omit; ३६ च० जै० शा० हे० omits; ३७ all others omit except ग०; ३८ all others except भो० इन। पिण्डी, इन (भो०); ३९ शा० हे० ग० omit.

Additional names—विस्फोटक, काक, शाकिन् घातकि; बुद्धिकार (का० टि०), धेनुजि (का० टि०), धानुजी (शा०); धातुजि (हे०), वानुजि (ग०); वातकि (च०), शुभ्र (च० शा० भो० हे० ग०); तक्षन् (च० शा० भो० हे० ग०); कर्णकारि (च०); कर्णकार (भो० हे० ग०); वैकाकवि (च० ग०); नितान्तवृक्ष (च० ग०); वान्तवृक्ष (भो० हे० ग०); हृन्न (च० हे०); इन्द्रवृक्ष (च०); आम्रवृक्ष (च०); आर्द्रवृक्ष (हे० ग०); रणंजय, क्रोड, खण्डाक, सीक्ष, भूहेतु, शुद्धरसी (जै०); वहतींकार (च०); बृहतीकार (भो० हे० ग०), चपट्टक (जै०), चषट्टक (शा०); चपथट्टक

(भो०), चफट्टक (हे०), चप्पट्टक (ग०); नापित (शा० हे०), हस्तिन्, स्तद (शा०), कुटल (शा०, हे०); श्यापर्ण (शा० हे० ग०); शाल्मोन (भो० ग०); वैराजकि, (भो०); पीला (भो० ग०); ह्रदिक (भो० हे० ग०); कालाका, पदका, खदाका, अविमारक, श्यावप्रथ, श्यापत्र, पथिकार, पितृमन्तु (हे०); पुर (भो० ग०); एजि, फट्टक, श्रेय, भर्तृ (ग०)।

६. गर्गादि (४।१।१०५)

[गर्गादिभ्यो यञ । गार्ग्यः]

Text—१ गर्ग, २ वत्स, ३ वाज (असे), ४ संकृति, ५ अज, ६ व्याघ्रपात्, ७ विदभृत्, ८ प्राचीनयोग, ९ अगस्ति, १० पुलस्ति, ११ रेभ, १२ अग्निवेश, १३ शङ्ख, १४ शठ, १५ धूम, १६ अवट, १७ चमस, १८ धनंजय, १९ मनस, २० वृक्ष, २१ विश्वावसु, २२ जरमाण, २३ लोहित, २४ संशित, २५ बभ्रु, २६ मण्डु, २७ मंक्षु, २८ अलिगु, २९ शङ्कु, ३० लिगु, ३१ गुहलु, ३२ मन्तु, ३३ जिगीषु, ३४ मनुतन्तु, ३५ मनायी, ३६ भूत, ३७ कथक, ३८ कष, ३९ तण्ड, ४० वतण्ड, ४१ कपि, ४२ कत, ४३ कुरुकत, ४४ अनडुह्, ४५ शकल, ४६ कण्व, ४७ गोकक्ष, ४८ अगस्त्य, ४९ कुण्डिन, ५० यज्ञवल्क, ५१ अभयजात, ५२ विरोहित, ५३ वृषगण, ५४ रहूगण, ५५ शण्डिल, ५६ वण, ५७ कचुलुक, ५८ मुद्गल, ५९ मुसल, ६० पराशर, ६१ जतूकर्ण, ६२ मंत्रित, ६३ संहित, ६४ अश्मरथ, ६५ शर्कराक्ष, ६६ पूतिमाष, ६७ स्थूण, ६८ अररक, ६९ पिङ्गल, ७० कृष्ण, ७१ गोलुन्द, ७२ उलूक, ७३ तितिक्ष, ७४ भिषज्, ७५ भडित, ७६ भण्डित, ७७ दल्भ, ७८ चिकित, ७९ देवहू, ८० इन्द्रहू, ८१ एकलू, ८२ पिप्पलू, ८३ बृहदग्नि, ८४ सुलोभिन्, ८५ उक्थ, ८६ कुटीगु ।

References—का० ४।१।१०५, च० २।४।२४, जै० ३।१।६४, शा० २।४।३८, भो० ४।१।४६-५३, हे० ६।१।४२, गण० श्लोक २४६–२५२.

Variants—३ शा०, भो० omit ; ७ विदद्भृत (भो०), शा० omits ; ९ all others omit except ग० ; ११ रेन (जै०) ; १२ अग्निरेश (शा०) ; १४ सठ (जै०), शट (शा० भो० हे० ग०) ; १७ च० जै०

शा० omit; १६ नमस (शा०), भो० हे० omit; २० भो० हे० omit; २२ जनमान (का०), २३ भो० omits; २४ भो० ग० omit; २५ भो० ग० omit; २६ भो० ग० omit; २७ मधु (का०); २८ all others omit except ग०; २६ शङ्कु (शा०), संकु (जै०), च० भो० omit; ३० जै० शा० भो० omit, ३१ गुलु (का०), गुगुहलु (जै०), गोहलु (शा०), भो० omits; ३२ शा० भो० हे० omits; ३३ विजिगीषु (च०), भो० ग०, omit. ३४ all others mention मनु; ३६ all others omit except का० ३७ कंथक (च० ग०), कत्थक (शा०), हे० omits; ३८ कर्षक (भो०), all others omit; ३६ तण्डिन् (शा० हे०); ४१ कवि (भो०); ४४ अनुडुह (जै०); ४५ सकल (जै०); ४६ कण्ठ (जै० ग०); ४८ शा० हे० ग० omit; ४६ all others mention कुण्डिनी; ५२ तिरोहित (च०), ५४ रहो गण (च० जै० हे०), शा० omits; ५५ शण्डिला (शा०), संडिल (जै०); ५६ all others omit except का०; ५७ चुलुक (भो० ग०), च० जै० शा० हे० omit; ५६ मुसर (शा०) ६१ जतुकर्ण (शा० भो०), ६२ मण्डित (शा०), हे० ग० omit; all others omit except का०; ६४ अस्मरथ (जै०); ६७ स्थूर (जै० भो०,) स्थूरा (शा० ग०), स्थूर। स्थूरा (हे०); ६८ रराका (च०), अरराक (जै०), अरराका (शा० हे०), अरगतता (भो०), रराक (ग०); ६६ पिङ्ग (शा०), पिङ्गलता (भो०); ७१ गोलंद (च० भो० ग०). ७३ तितिक्षा (भो०), च०, जै०, शा० हे० omit; ७५ च० जै० शा० omit; ७७ जै० omits, ७८ विकित (शा०), ७६ देवहा (शा०); ८० इन्द्रहा (शा०); ८१ पिप्पलु (जै०), वप्पलु (शा०), पिप्पल्लु (हे०); ८३ बृहदग्नि (भो० हे०); ८४ सुलाभिन् (शा० हे०), च० omits; ८५ उकरथ (का०), भो० omits; ८६ कुटिकु (शा०)।

Additional names:—एक (च० ग०), मलाभिन्, (च०) असंकृत (च० ग०), तितिम्भ (च० जै० शा० हे० ग०), रिक्थ (च०), ऋक्ष (च० हे० ग०), तरुक्ष (च० शा० भो० हे० ग०), तरक्ष (च०), शम्लु (च०), स्रुव (च० हे०), बम्लु (च० हे०), संचुलि (जै०), रुक्ष (जै० शा० हे०), वामरथ (जै० शा०

हे० ग०), तलुक्ष (जै० शा० भो० हे० ग०), सूनु (जै० भो० हे० ग०), तितिव, तिलज (जै०), पितुवर्ष (शा०), प्रक्षु, मतु (शा०), मिष (शा० हे०), यज्ञहा (शा०), यज्ञहू (हे०), गोरथ (शा०), पण्त्रिलक (शा० भो० हे० ग०), वभ्रु (शा०), सवर्ण (भो० ग०), सुवर्ण (भो० हे०), नमस (भो० हे०), चणक (भो० हे० ग०), प्रश्न (भो०), तुश्न (भो० हे० ग०), स्रु (भो०). कुलट (भो०), अजकर्कट, अज (भो०) कर्कट (भो० हे० ग०), शल्थु (हे०) मन्द्रित (हे० ग०), मुद्गर, मसुर (हे०), वृहलू, पप्फलू, पिङ्ग, भिष्णज, पत्यलू, रूक्ष (हे०) मद्गु (हे० ग०), अलापिन् (हे० ग०), कच्छक, सुलामिन, वक, चुलुक, (हे०), लतु (हे० ग०), शक, भिषा, वल्गु, ब्राह्मण, गण्डु, कुशिक, कच्छ, तित्तरी, सम्भव, कृतबोर, महित, स्रुव, अभिजित, कुटिल, धूर्त (ग०)।

७ गोपवनादि (२।४।६७)

[न गोपवनादिभ्यः । गौपवनाः]

बिदाद्यन्तर्गणः

Text—१ गोपवन, २ शिग्रु, ३ बिन्दु, ४ भाजन, ५ अश्वावतान, ६ श्यामाक, ७ श्यापर्ण।

References :—का० २।४।६७, च० २।४।११६, जै० १।४।१३८, शा० २।४।११०, भो० ४।१।४४, हे० ६।१।१२६, गण० श्लो० ३५.

Variants :—३ जै० omits, ४ च० हे० omit ; ५ अश्व। अवतान (का०) ; च० omits ; अश्व। अवूतान (जै०). आश्ववतान (हे०), ६ च० omits ; ७ श्वापर्ण (का०), च० omits ;

Additional names :—पिण्ड, शम्याक (जै०) ; शम्बक (भो०) ; ताजमा (हे०), सम्बक (ग०), "केचित्तु मठरराजमाऽवतानाश्वश्याम्याक शब्दानपि गोपवनादिषु पठन्ति" इति हेमः।

८. तिकादि (४।१।१५४)

[तिकादिभ्यः फिञ् । तैकायनिः । कैतवायनिः]

Text—१ तिक, २ कितव, ३ संज्ञा, ४ बाल, ५ शिखा, ६ शाठ्य, ७ सैन्धव, ८ यमुन्द, ९ उरस्, १० रूप्य, ११ ग्राम्य, १२ नील, १३ अमित्र, १४ कुरु, १५ देवरथ, १६ तैतिल, १७ भौकक्ष्य, १८ औरस, १९ कौरव्य, २० भौरिकि, २१ मौलिकि, २२ चौपयत, २३ चैटयत, २४ शैकयत, २५ क्षैतयत, २६ ध्वाजवत, २७ चन्द्रमस, २८ शुभ, २९ गङ्गा, ३० वरेण्य, ३१ सुयामन्, ३२ आरद्ध, ३३ वह्यका, ३४ खल्यका, ३५ वृष, ३६ लोमका, ३७ उदन्य, ३८ यज्ञ ।

References—का० ४।१।१५४, च० २।४।८६, जै० ३।१।१४०, शा० २।४।८३, भो० ४।१।१५५–१५८, हे० ६।१।१०७, ग० श्लो० २२९–२३१ ।

Variants—४ वाल (जै० शा०); ५ च० omits; ६ शाट्य (च० भो० हे० ग०), शाब्य (का० जै०); ८ यामुन्द (शा०); ११ च० जै० omit ; १२ जै० भो० omit ; १३ सुमित्रा (जै०); १४ करु (का० शा०); २५ (शा० omits); २६ तितिलिन् (जै०), तैतल (शा० ग०); २७ गोकक्ष्य (हे० ग०), च० शा० omit ; २८ औरश (शा० हे०), जै० omits; २० भौरिक (का०); खौरिक (शा०); २१ भौलिक (का०), खौलिक (शा०); जै० omits ; २२ चौयमत (जै०), चोपयत (शा०) ग० omits ; २३ चेटयत (शा०); २४ सैकयत (जै० भो० ग०); २५ क्षैजयत (च० भो०), क्षैतपत (शा०); जै० ग० omits ; २६ ध्वजातत (शा०) च० जै० भो० ग० omit ; २८ शा० mentions शुभगङ्ग for २८-२९. ; ३० शा० omits; ३२ आरद्धा (जै०), अरड्वा (शा०), आरद्ब (ग०), च० भो० omit ; ३३ वाह्यक (जै०); ३४ खल्य (का० शा० हे०), खल्वका (भो०), खल्वक ग०; ३५ all others omit except (का०) ३६ लोमक (का०), लोयक (जै०); ३७ उदन्या (जै०) ।

Additional names—ऋष्य (का० टि०), भीत (का० टि०, भो०, हे०), जाजल (का० टि० भो० हे० ग०). रस, लावज, बन्धु, आवन्धका (का०

टि०) ध्वजवद् (का० टि०, भो० ग०), त्वमवत (जै०) ध्वाजवत (हे०), वसु (का० टि० च० भो० हे० ग०), सुगामन् (का० टि० भो० ग०); उखा (च० भो० हे० ग०); आरथ्य (च० भो० हे० ग०), तैल (च०), लाङ्कव (जै०), लङ्कव (भो० हे० ग०); उरस (जै० ग०), उरश (भो० हे०), कुदेवर (जै०), देवर (शा०, हे०), दैवर (हे०); दौजयत (जै०), शताल, नाडी, बरण्डा (शा०), शल्यका (भो० हे० ग०), नीड (भो० हे०), उतथ्य (भो० हे० ग०), बालशिख, खल्वका, अरद्ध, प्ररद्धा, विम्बा, पूर्णिक, गङ्ग, वन्ध्या, शुभ्र, चैतयत, शैलाल (हे०) धेवर (हे०); धैवर (हे० ग०); शीत, बन्ध, दक्ष, रूक्ष (ग०)।

९. तिककितवादि (२।४।६८)

[तिककितवादिभ्यो द्वन्द्वे । तिककितवाः]

Text—१ तिककितव, २ वङ्खर भण्डीरथ, ३ उपक लमक, ४ पफक नरक, ५ उब्जककुभ, ६ लङ्कशान्तमुख, ७ उरस लङ्कट, ८ भ्रष्टक कपिष्ठल, ९ कृष्णजिन कृष्णसुन्दर, १० अग्निवेश दासेरक ११ बकनखश्वगुदपरिणद्ध ।

References—का० २।४।६८, च० २।४।११५, जै० १।४।१४०, शा० २।४।११६, भो० ४।१।१९५–१९६, हे० ६।१।१३६, गण० श्लो० ३२-३४।

Variants—२ रन्धेर भाण्डिरथ (शा०); ४ प्रहुतक नरक (च०), प्रह्नित नरक (भो०), पहक नरक (हे०), पटक नरक (जै०) पफक उरक (शा०); ५ उब्ज ककुम्भ (शा०); ६ लङ्कट शान्तमुख (च०); उरशलङ्कट (शा० हे०); १० अग्निवेश दशेरक (च० हे० ग०); ११ बकनखगुडपरिणद्ध (च०), बकनखस्वगुदपरिणद्ध (हे०), बकनखगुदपरिणद्ध (ग०)।

Additional names—शण्डिलककालकृत्स्न (शा० हे० ग०), प्रहुत-नरक, कृष्णसुन्दर, पुब्जककुभ, ऊर्जक ककुभ (ग०)।

१० तौल्वल्यादि (२।४।६१)

[न तौल्वलिभ्यः । तौल्वलायनः]

Text—१ तौल्वलि, २ धार्णि, ३ रार्वाणि, ४ पारणि, ५ दैलीपि, ६ दैवलि, ७ दैवमति, ८ दैवयज्ञि, ९ प्राबाहणि, १० मान्धातकि, ११ आनुहारति, १२ श्वाफल्कि, १३ आनुमति, १४ म्राहिंसि, १५ म्रासुरि, १६ म्रायुधि, १७ नैमिषि, १८ म्रासिबन्धकि, १९ बैङ्कि, २० पौष्करसादि, २१ वैरकि, २२ वैलकि, २३ बैहृति, २४ वैकर्णि, २५ कारेणुपालि, २६ कार्मलि ।

References—का० २।४।६१, चा० २।४।१२२, जै० १।४।१३१, शा० २।४।१२७, भो० ४।१।२०६-२०७, हे० ६।१।१४३, गण० श्लोक १७१-१७३ ।

Variants—१ तौल्वलि, तैल्वलकि (शा०), तौल्वलि, तैल्वलि, तैल्वकि (हे०); २ धारिणि (शा०); ३ रामणि (शा० हे०), ४ वार्णि (भो०), च० जै० शा० हे० ग० omit. ५ दालीपि (हे० ग०), च० omits ; ६ दैवोति (जै० हे०), देवौति (शा०), दैवति (भो० ग०), च० omits; ७ च० omits. ८ दैवयवि (शा०), च० omits. ९ all others omit except का० and जै०; १० all omit except का० and जै० ; ११ all others (आनुराहति) except का०, १२ all others omit except का०.; १३ म्रानुति (शा० भो० हे० ग०), आर्नुति । आदिति (जै०), च० omits; १४ जै० omits; १५ आसुरी (शा०), १६ all others omit except (का०); १७ नैमषि (जै०), नैमिशि । नैमिश्री (शा०), नैमिश्रि (हे०), नैमिश्य (भो०), १८ आसिद्धकि (शा०), आशिबान्धकि (हे०), १९ all others omit except का०, ग०; २० पौष्करदी (शा०), २१ पैरकि (भो०), २२ वैल्वकि (ग०), भो० omits ; २३ वैहृरि (च०), भो० omits.; २४ च omits २६. all others omit except का० ।

Additional names—रान्धकि, आसुराहति, कान्दकि, दौषकगति, आन्तराहति (का० टि०); प्राणाहति (का० टि०), प्राटाहृति (शा० हे०),

प्राडाहृति (ग०); पौष्कि (का० टि०), पौष्की (शा०), पौष्पि (च० हे० ग०), पैष्ट (भो०); चैङ्कि (च० शा० भो०), चौङ्कि (हे०), रातक्षनि, प्रादोहृनि (च० भो० ग०), प्रावाहृति (हे०), प्रदायति (शा०), दैवमित्रि, स्वालिम्पि, वैह्वि, पौष्पिपि (जै०); बाषट्रकि (शा०), बान्वकि (शा० ग०), बाद्धकि (हे०), आसिनासि (शा० हे० ग०), पैसीति (भो०), वैशीति (हे० ग०), कार्करि (भो०), वार्कलि (हे० ग०), चाफन्दकि (भो०), चाफट्टकि (हे० ग०), नैमिश्लि (हे०), नैमिश्रि (ग०), नैमिशि (हे०), नैवकि (ग०)।

११ नडादि (४।१।९९)

[नडादिभ्यः फक् । नाडायनः]

Text—१ नड, २ चर, ३ बक, ४ मुञ्ज, ५ इतिक, ६ इतिश, ७ उपक, ८ लमक, ९ ॥शलङ्कु शलङ्कं च॥, १० सप्तल, ११ वाजप्य, १२ तिक, १३ अग्निशर्मन् वृषगण, १४ प्राण, १५ नर, १६ सायक, १७ दास, १८ मित्र, १९ द्वीप, २० पिङ्गर, २१ पिङ्गल, २२ किङ्कर, २३ किङ्कल, २४ कातर, २५ कातल, २६ काश्य, २७ काश्यप, २८ काव्य, २९ अज, ३० अमुष्य, ३१ ॥ कृष्णरणौ ब्राह्मणवासिष्ठयोः ॥ ३२ अमित्र, ३३ लिगु, ३४ चित्र, ३५ कुमार, ३६ ॥ क्रोष्टु-क्रोष्टं च ॥ ३७ लोह, ३८ दुर्ग, ३९ स्तम्भ, ४० शिंशपा, ४१ अग्र, ४२ तृण, ४३ शकट, ४४ सुमनस, ४५ सुमत, ४६ मिमत, ४७ ऋक्, ४८ जत, ४९ युगन्धर, ५० हंसक, ५१ दण्डिन्, ५२ हस्तिन्, ५३ पंचाल, ५४ चमसिन्, ५५ सुकृत्य, ५६ स्थिरक, ५७ ब्राह्मण, ५८ चटक, ५९ बदर, ६० अश्वक, ६१ खरप, ६२ कामुक, ६३ ब्रह्मदत्त, ६४ अदुम्बर, ६५ शोण, ६६ अलोह, ६७ दण्ड।

References :—का० ४।१।९९, च० २।४।३५, जै० ३।१।८८, शा० २।४।३२, भो० ४।१।७१–७८, हे० ६।१।५३, गण० श्लोक २३२–२३६.

Variants—३ वक (जै० शा०); ४ कुञ्ज (शा०); ८ अमक (शा०), ग० omits; ९ शलङ्कु शलङ्कं च (च०), सलंकु शलङ्कु (जै०), शलङ्कु (भो०), शलङ्कू (ग०), शा० हे० omit; १० सत्वल (शा०), जै० omits; ११ वाजप्या (जै०),

वाजव्य (ग०), वाज (शा०), व्याज वाज) (हे०); १२ व्यातिक (च०), व्यतिक (शा० हे०); १३ शा० हे० omit; १७ दासक (भो०), दाश (हे०); २० जै० शा० omit; २३ जै० शा० omit २४ कतर (जै०), २५ कतल (जै०), काडव (शा०), हे० omits २७ जै० omits; २८ णव्य (शा०), च० हे० omit.; ३१ शा० हे० omit; ३२ अजमित्र (जै०), शा० omits; ३३ लिङ्ग (भो०); ३६ क्रोष्टुरपररवं क्रोष्टं च (जै०), कोष्ट्र व (भो०), क्रोष्टु (ग०), शा० हे० omit; ३६ स्तम्ब (च० शा० भो० ग०); ४४ जै० शा० भो० हे० omit; ४५ सुमति (भो०), शा० omits; ४६ निमत (जै०) ४७ ऋच्छ (भो०), ऋच् (शा० हे०); ४८ जन (शा० हे० ग०), च० भो० omit; ४६ जै० omit; ५० जै० omits; ५५ संकृत्य (ग०), जै० omits.; ५६-५७ जै० omits; ५८ चाटकैर (जै०); ६० अश्व (भो०), च० जै० शा० ग० हे० omit; ६१ जै० omits; ६२ कामक (हे०); ६४ उदम्बर (जै०); ६५ जै० omits; ६६ आरोह (शा०); भो० ग० omit; ६७ all others omit except (का०).

Additional names—एक, वानव्य, शावक, अन्वजत, अन्तजन, अशक (का० टि०), नाव्य (का० टि० च० हे०), इत्वरा (का० टि०), इत्वत्त (जै०), अश्वला (का० टि०), अश्वल (च० जै० शा० हे० ग०), अध्वर (का० टि० च० हे० ग०), अभ्र (भो०), दण्डप (का० टि०, च० हे० ग०), जालन्धर (च० ग०), जलन्धर (हे०), जगन्धर (भो०), जनन्धर (शा० हे०), दुर्मनस्, लोहित (च०), काथल (च० हे० ग०), तगर, अस्वर, रुच्, जनत्वत्, कथन, सैव्य (जै०), इन्धन (शा०), इन्ध (हे० ग०), अश्र (भो० ग०), बालिश (भो० हे० ग०), शण (भो० ग०), लङ्क (हे० ग०); सत्वल, दाशमित्र, द्वीप, स्तम्ब, मिकट, ऋगिन्ध, मित, सण, छाग, आलोह, दंडम, आलाह, ऋग (हे०), केकर (हे० ग०), अश्मक, नाड्य (ग०)।

१२ पैलादि (२।४।५९)

[पैलादिभ्यश्च । पैलः]

Text—१ पैल, २ शालङ्कि, ३ सात्यकि, ४ सात्यकामि, ५ देवि, ६ औदमज्जि, ७ औदभज्जि, ८ औदमेघि, ९ औदबुद्धि, १० दैवस्थानि, ११ पैङ्गलायनि, १२

राणायनि, १३ रौहक्षिति, १४ भौलिङ्गि, १५ औद्गाहमानि, १६ औजिह्हानि, ॥ तद्राजाश्चाण: ॥ ॥ आकृतिगणोयम् ॥

References—का० २।४।५९, च० २।४।१२१, जै० १।४।१३१, शा० २।४।१२५, भो० ४।१।२०२-२०३, हे० ६।१।१४२, गण० श्लो० १६९–१७०.

Variants—२ सालङ्कि (जै० भो०); ३ ज्ञात्यकि (शा०); ४ सात्यंकापि (शा०), सात्यंकामि (च० जै० भो० हे० ग०), ५ all others omit except (का०), ६ औदमंजि (भो०); ७ प्रौदजि (भो०), जै० omits; ९ औदकशुद्धि (शा० ग०), ओदशुद्धि (च० जै० भो०), प्रौदशुद्धि । औदकशुद्धि (हे०); १० दैवस्थालि (शा०), दैवस्थान (भो०); ११ पैंगलोदायनि (च० ग०), पैङ्गलादयनी (शा०), पैङ्गलादायनि (भो०), पैङ्गलौदयनि (हे०); १२ राणियनि: (जै०), शा०, च० भो० हे० ग० omit. ; १३ राहक्षिति (च० भो० हे० ग०), राणक्षिति (शा०); १४ चोलिङ्गि (शा०), १५ उद्वाहमानि (जै०), औदाहमानी (शा०), औद्वाहमानि (भो०); १६ औब्जिहायनि (च०), प्रौजिहानि (शा०); औजिहानि, प्रौजहायनि (जै०).

Additional names—रागक्षति (का० टि०), राणि (का० टि० च० शा० भो० हे० ग०), सौमनि (का० टि० जै०), उर्हमानि (का० टि०), औदश्वि (च० जै० हे० ग०), प्रौदश्वो (शा०), प्रौदभृज्जि (शा० हे० ग०), प्रौदन्यि (हे० ग०), रावणि, राहवी (ग०).

१३ बाह्वादि (४।१।९६)

[बाह्वादिभ्यश्च । बाहविः]

Text—१ बाहु, २ उपबाहु, ३ विवाकु, ४ शिवाकु, ५ बटाकु, ६ उपबिन्दु, ७ वृक, ८ चूडाला, ९ मूषिका, १० बलाका, ११ भगला, १२ छगला, १३ ध्रुवका, १४ सुमित्रा, १५ दुर्मित्रा, १६ पुष्करसत्, १७ अनुहरत्, १८ देवशर्मन्, १९ अग्निशर्मन्, २० कुनामन्, २१ सुनामन्, २२ पञ्चन्, २३ सप्तन्, २४ अष्टन्, २५ ॥ अमितौजसः सलोपश्च ॥ २६ उदञ्चु, २७ शिरोविन्, २८ शिरस्, २९ क्षेम-

वृद्धिन्, ३० शृङ्खलतोदिन्, ३१ खरनादिन्, ३२ नगरमर्दिन्, ३३ प्रकारमर्दिन्, ३४ लोमन्, ३५ अजीगर्त, ३६ कृष्ण, ३७ सलक, ३८ युधिष्ठिर, ३९ अर्जुन, ४० साम्ब, ४१ गद, ४२ प्रद्युम्न, ४३ राम, ४४ ॥ उदङ्कः संज्ञायाम् ॥ ४५ ॥ सम्भूयोम्भसोःसलोपश्च ॥ आकृतिगणोऽयम् ॥

References—(१३) बाह्वादि—का० ४।१।९६, च० २।४।२०, जै० ३।१।८५, शा० २।४।२२, भो० ४।१।२८-३८, हे० ६।१।३२, गण० श्लो० २०३-२०७।

Variants—२ जै० शा० हे० omit; ३ all others omit except (का०); ४ च० जै० शा० हे० omit; ५ वचाकु, वटाकु (ग०); ६ उपविन्दु (जै० ग०); ७ वृकला (च० जै० शा० हे० ग०), वृकका (शा०), ८ चूडा (च० भो० हे० ग०), जै० शा० omit; ९ मुषिका (भो०); १२ च० जै० शा० omit; १३ दुवका (शा०), १४ सुग्वी, मित्रा (शा०) १५ शा० omits; १७ अनुरहत् (हे० ग०) अनुरदत् (जै०); १९ जै० omits; २१ जै० omits; २४ जै० omits; २६ उदश्व (जै० भो० हे०), उदल् (शा०); २७ माषशराविन् (च० शा० भो० ग०), माषशिरोविन् (हे०), माषसराविन् (जै०); २८ भो omits; २९ क्षेमवृत्विन् (च०), क्षेमधूर्त्वी (ग०), क्षेमहत्विन् (शा०), क्षेमवृत्वित् (जै०), क्षेमधन्विन्; ३० शृङ्खालतोदिन (का०), शृङ्खलातोदिन् (भो०), शृङ्खलनोदिन् (च०), शृङ्खलसादि (शा०); ३१ खरसादिन् (शा०); ३३ प्राकारमर्दिन् (च० शा० हे०); अकारमर्दिन् (जै०); ३४ भो० omits; ३५ अजीगर्तु (शा०); ३७ सत्यक (जै० शा० भो० हे० ग०); ४० शाम्ब (हे०), साम्पि (शा०); साम्ब (जै०); ४४ उदक (जै०), च० शा० हे० omit; ४५ संभूयाम्यामितौजः शलङ्कूनां लोपश्च (भो०), भूयःसंभूयोऽम्भोऽमितौजसां सलोपः शलङ्कुच (ग०), शा० हे० omit.

Additonal names—निवाकु (का० टि० जै० शा० हे० ग०), अवाकु (का०टि०), उपवाकु (जै० शा० हे० ग०), चटाकु (शा० भो०), चटाकु, चाटाकु (हे०), बिन्दु, चूडा, वृकला, सुशर्मन्, माष (काटि०), उपबाहु (हे०),

भद्रशर्मन् (का० टि०), मद्रशर्मन् (हे०), माद्रशर्मन् (ग०), शरलोम (हे०), जह्का (च० भो० हे० ग०), इन्द्रशर्मन् (जै० हे०), ग्रजवेनु (जै०), ग्रजघेनु (भो० ग०), ध्रुवका (च० जै० भो० हे० ग०) लगहा (च० जै० हे०), लहका (भो० ग०), ग्रगहा (शा०), सङ्कर्षण (जै० शा० भो० हे० ग०), कुकला (च० भो० ग०), ग्रनडुह (च० भो०) अनडुत (भो० ग०), वराकु (जै०), मध्यंदिन् (जै० शा० हे० ग०), शिरोलोम (भो०), शूर (भो० हे० ग०), असुर (भो० हे० ग०), सुदामन्, स्वधावत् (हे०) कश्यप, उद्दालक, ग्ररुण, उदश्वित, विद, जलड, पणिन्, सखा, संसेविन्, वल्मीक, तृणबिन्दु, सुधाम, उत्ताम, उत्तानपाद, गलड (ग०), ग्राकृतिगणत्वात् जाम्ब, इन्द्रशर्मन् अजधेनु. अजबन्धु, उडलोम, ऐते शब्दा ग्रधिकाः पठिताः काशिकाकारेण ।

१४ बिदादि (४।१।१०४)

[अनृष्यानन्तर्ये बिदादिभ्योऽञ् । बैदः]

Text—१ बिद, २ उर्व, ३ कश्यप, ४ कुशिक, ५ भरद्वाज, ६ उपमन्यु, ७ किलालप, ८ किदर्भ, ९ विश्वानर, १० ऋष्टिषेण, ११ ऋतभाग, १२ हर्यश्व, १३ प्रियक, १४ आपस्तम्ब, १५ कूचवार, १६ शरद्वत्, १७ शुनक, १८ धेनु, १९ गोपवन, २० शिग्रु, २१ बिन्दु, २२ भाजन, २३ अश्वावतान, २४ श्यामाक, २५ श्यमाक, २६ श्यापर्ण, २७ हरित, २८ किन्दास, २९ वैह्यस्क, ३० अर्कलूष, ३१ वध्योग, ३२ विष्णुवृद्ध, ३३ प्रतिबोध, ३४ रथन्तर, ३५ गविष्ठिर, ३६ मठर, ३७ मृद, ३८ निषाद, ३९ पुनर्भू, ४० पुत्र, ४१ दुहितृ ४२ ननान्दृ, ४३ ॥ परस्त्रीपरशुं च ॥

Reference—का० ४।१।१०४, च० २।४।२२, जै० ३।१।९३, शा० २।४।३०, भो० ४।१।४०—४५, हे० ६।१।४१, गण०, श्लो० २४३–२४४.

Variant—१ बिद (शा०); ३ कस्यप (जै०); ७ all others omit except (का०); ८ किदर्भ (जै०), केदर्भ (शा०), कीदर्भ (हे०), बिदर्भ (भो०) १० ऋष्टिषेण (जै०), ऋषिषेण (शा०); १३ पियक (शा०); १४ आपस्तम्भ च०), अपस्तम्भ (शा० हे०), अपस्तम्ब (जै०), १५ कुचवार (जै० च०

शा० भो० ग०), कुवाचर, कूवाचर (हे०); १६ सरक्षत (जै०); २१ बिन्दु (च० भो० ग०); २२ शा० हे० omit; २४ ग० omits; २५ श्यामान (शा०), जै० भो० हे० ग० omit; २६ स्यापर्ण (जै०); २७-२८ ग omits; २९ वस्यस्क (च० शा० हे०); ३० अर्कलूष (जै०), अर्कलुष (च०), अर्कलुश (शा० हे०); ३१ वद्योग (शा०); ३२ विष्णुबृद्ध (शा०); ३४ शा० omits; ३५ गविष्टिर (जै०); ३६ शा० omits; ३७ मुदाकु (च०), शा० जै० हे० ग० omit, ३९-४३ शा० हे० omit, २४-४३ ग० omits.

Additional names—किलात (का० टि० च० जै० शा० भो० हे० ग०), शाबली, श्यायक, अलस (का० टि०), सम्बक (का० टि० हे० ग०), शम्बक (भो०), रथीतर (च० शा० भो० हे०), गविष्ठिल (च० भो० हे०), सृदाकु (जै० शा० हे०), सृदारु (भो०), (पृदाकु जै० शा० भो० हे०), तामज (जै०), ताजव (शा०), ताजम (हे०) मधुर (शा०), शम्बर (भो०), शबर (हे०), पौत्र (भो०), प्रियक, अश्व, शङ्ख, वृष्णिवृद्ध (हे०).

(१५) यस्कादि (२।४।६३)

[यस्कादिभ्यो गोत्रे । यस्काः]

१ यस्क, २ लह्य, ३ द्रुह्य, ४ अयःस्थूण, ५ तृणाकर्ण, ६ सदामत्त, ७ कम्बल-भार, ८ अहियोग ९ कर्णाटिक, १० पिण्डीजङ्घ, ११ बकसक्थ, १२ बस्ति, १३ कुद्रि, १४ अजबस्ति, १५ मित्रयु, १६ रक्षामुख, १७ जङ्घारथ, १८ मन्थक, १९ उत्कास, २० कटुकमन्थक, २१ पुष्करसत्, २२ विषपुट, २३ उपरीमेखल, २४ क्रोष्टुमान, २५ शीर्षमाय, २६ क्रोष्टुपाद, २७ पदक, २८ वर्मक, २९ भडिल, ३० भण्डिल, ३१ भडित, ३२ भण्डित, ३३ भजन्दन ।

Reference—का० २।४।६३, च० २।४।११०, जै० १।४।१३४, शा० २।४।१०९, भो० ४।१।१८४-१८८, हे० ६।१।२५, गण० श्लो० २५-२७ ।

Variants—२ लभ्य (का०); लुह्य (जै०); ३ द्रुह्य (का०); ४ all others mention अयस्थूण, ग० omits; ५ तृण, कर्ण (शा०); ६ सदामत (जै० शा०); ७ कम्बलहार (च० जै० हे०), कलबलहाल (शा०);

८ - अहियोग (शा०), बहिर्योग (च० ग०); ९ कर्णाढक (जै० हे०), कर्णोदक (शा०), कर्णाट (भो०), कर्णाट, कर्णाटक (ग०), ११ पिकसक्थ (शा०), १२ all others omit; १३ कुन्द्रि (भो०), कुड्रि (ग०); १४ अजवस्ति (जै० शा० भो०), १५ मित्रयु (हे०) ; १६ (रक्षोमुख) (च० शा० भो० हे० ग०), बकरक्षोमुख (जै०); १७ जङ्घारथ (शा०), जघारथ (जै०); १८ मन्थर (जै०), शा० हे० ग० omit.; १९ उत्काश (भो० हे०); २० कटुमन्थ (ग०), कदुमन्थ, कदुकमन्थ (हे०) कटक, ग्रंथ (शा०) कटुक (च० जै०); २४ क्रोष्टुमाय, (शा० हे० ग०), च० जै० omit ; २५ (जै०) omits; २६ जै० ग० omit; २७ पदकर्षक (शा०), भो० ग० omit; २८ वर्षक (च०), वर्षुक (भो० ग०), जै० शा० हे० omit. ; २९ भदिल (शा०), ३१ भदित (शा०), जै० ग० omit; ३२ भटक (जै० शा०) ३३ कलंदन (च) ।

Additional names—पर्णाढक (जै० हे० ग०), पर्णोदक (शा०); खरप (शा० भो० हे० ग०); सुगल (शा०), स्थगल (हे०); कृषक (शा० हे०), किषक्त (हे०), कृश (हे०), कृष (भो०), वटाक (भो०), पटाक (हे० ग०); कडर (भो०), कडम (हे०), निकष (हे०), वष्मक (हे० ग०), निकष (हे०); गोतम, वशिष्ठ, अत्रि, उत्स, अङ्गिरा, पर्णाट, भृगु वशीक, मिच्छुका (ग०), विध्रि (च० शा० भो० हे० ग०).

(१६) रैवतिकादि (४।३।१३१)

[रैवतिकादिभ्यश्छः । रैवतिकीयः]

१ रैवतिक, २ स्वापिशि, ३ क्षैमवृद्धि, ४ गौरग्रीवि, ५ औदमेयि, ६ औदवाहि, ७ बैजवापि ।

References—का० ४।३।१३१, च० ३।३।८६, जै० ३।३।८६, शा० ३।१।१५६, भो० ४।३।२८३, हे० ६।३।१७०, गण० श्लो० ३५६.

Variants—२ स्वापिसि (भो०), स्वापिशिष्य (हे०); ३ क्षैमवृध्वि (च० शा०), क्षैमवुध्वि (जै०), क्षैमवुति (हे०), क्षैमवृत्ति (ग०); ४ जै० omits ; ५ मौदमेघि (च०, भो० हे० ग०), मौदमेघि (जै० शा०); ६ औदवापि (च० भो० ग०); औदवापि। औदवाहि (जै०); ७ वैजवापि (जै० शा० हे०).

(१७) लोहितादि (४।१।१८)

[सर्वत्र लोहितादिकतन्तेभ्यः। लौहित्यायनी]

(गर्गाद्यन्तर्गणः)

See Gargādi No 6.

(१८) वाकिनादि (४।१।१५८)

[वाकिनादीनां कुक्च। वाकिनकायनिः]

१ वाकिन, २ गारेध, ३ कार्कंद्य, ४ काक, ५ लङ्का, ६ चर्मिवर्मिणोर्नलोपश्च

References—का० ४।१।१५८, च० २।४।६१, जै० ३।१।१४४, शा०—, भो० ४।१।१६३, हे० ६।१।११२, गण० श्लोक २२८,

Variants—२ गधेर (ग०), गारेट (च० हे०), गारेन (जै०); ३ कार्कंद्य (जै०); ५ लङ्क (जै० भो०), ६ चर्मिवर्मिभ्यः कुट च, (भो०), शा० omits all.

(१९) शार्ङ्गरवादि (४।१।७३)

१ शार्ङ्गरव, २ कापटव, ३ गौगुलव, ४ ब्राह्मण, ५ गौतम, ६ कामण्डलेय, ७ ब्राह्मकृतेय, ८ आनिचेय, ९ आनिधेय, १० आशोकेय, ११ वात्स्यायन, १२ मौञ्जायन, १३ कैकसेय, १४ काव्य, १५ शैव्य, १६ एहि, १७ पर्येहि, १८ आश्मरथ्य, १९ औदपान, २० अराल, २१ चण्डाल, २२ वतण्ड, २३ जाति, २४ ॥ भोगवद्गौरिमतोः संज्ञायाम् ॥ २५ ॥ नृनरयोर्वृद्धिश्च ॥

References—का० ४।१।७३, भो० ३।४।११७-१२५, (च० जै० शा० हे० ग०) omit.

Variants—१ शङ्खंद (भो०), २ कपट्ट (भो०), ३ गुल्गुल (भो०), ५ गोतम (भो०), ८ भो० omits, १४ कपि (भो०)

Additional names—वहतु (भो०)

(२०) शिवादि (४।१।११२)

[शिवादिभ्योण् । शैवः]

१ शिव, २ प्रौष्ठ, ३ प्रोष्ठिक, ४ चण्ड, ५ जम्भ, ६ मुनि, ७ सन्धि, ८ भूरि, ९ कुठार, १० अनभिम्लान, ११ ककुत्स्थ, १२ कहोड, १३ लेख, १४ रोघ, १५ खञ्जन, १६ कोहड, १७ पिष्ट, १८ हेहय, १९ खञ्जार २० खञ्जाल, २१ सुरोहिका, २२ पर्ण, २३ कहुष, २४ परिल, २५ वतण्ड २६ तृण, २७ कर्ण, २८ क्षीरह्रद, २९ जलह्रद, ३० परिषिक, ३१ जटिलिक, ३२ गोफिलिक, ३३ बधिरिका, ३४ मञ्जीरक, ३५ वृष्णिक, ३६ रेख, ३७ आलेखन, ३८ विश्रवण, ३९ रवण, ४० वर्त्तनाक्ष, ४१ पिटक, ४२ पिटाक, ४३ तृक्षाक, ४४ नभाक, ४५ ऊर्णनाभ, ४६ जरत्कारु, ४७ उत्क्षिपा, ४८ रोहितिक, ४९ आर्यश्वेत, ५० सुपिष्ट, ५१ खर्जूरकर्ण, ५२ मसूरकर्ण, ५३ मयूरकर्ण, ५४ तृणकर्ण, ५५ खडरक, ५६ तक्षन्, ५७ ऋष्टिषेण, ५८ विपाशा, ५९ यस्क, ६० लह्य, ६१ गङ्गा, ६२ द्रुघ, ६३ अयः स्थूण, ६४ भलन्दन, ६५ विरूपाक्ष, ६६ भूमि, ६७ इला, ६८ सपत्नी, ६९ ॥ द्व्यचो नद्याः ॥, ७० ॥ त्रिवेणी त्रिवणं च ॥

References—का० ४।१।११२, च० २।४।४१, जै० ३।१।१०१, शा० २।४।४६, भो० ४।१।८४-९३, हे० ६।१।६०, गण० श्लो० २१२-१७।

Variants—२ प्रोष्ठ (च० जै० भो० ग०), प्रोष्टक (शा०); ३ प्रौष्ठिक (च० हे०), प्रोषिक (शा०); ४ वण्ट (हे०); ५ जम्ब, जम्भ (हे०), ४-५ शा० omits; ६ मुनिभूम (शा०); ९ कुमार (हे०); १० अनभिग्लान (च० जै०), अनभिमान (शा०); ११ ककुस्थ (च० जै० हे०), कुत्स्थ

(भो०); १२ च० जै० शा० हे० omit; १३ जै० omits, १४ रोम (जै०), भो० omits; १५ च० जै० शा० हे० omit, १६ कोहद (शा०), १७ पिष्टु (शा०), पिष्ण (भो०), पिष्टकर्णक (हे०); १८ च० जै० शा० हे० omit; १९ खञ्जर (जै०), खञ्जेर (भो०), शा० omits; २० खञ्जल (जै०), खञ्ज (भो०), शा० omits; २१ च० जै० शा० भो० omit; २२ पर्णक (हे०), च० जै० शा० omit; २३ all others omit except का० and ग०; २४ पिरल (च०), वलर (शा०), जै० भो० हे० omit, २८ क्षीरहृदय (जै०), क्षीर, ह्रद (शा०); २९ जाल, इन्द्र (शा०), जै० omits, ३० परिषक (ग०), शा० भो० omit, ३१ जटिलिका (च०), जटिलक (शा० हे० ग०), जटिलका (जै०), जगिलिका (भो०), ३२ गोपिल्का (जै०), गोपिल (शा०) गोफिल (हे०), गोफिलक, गोपिका (ग०), गोगिका, गोपालिका (भो०), च० omits; ३३ बधिरका (जै०), बधिरक (शा० हे० ग०); ३४ भ्रमञ्जरीक (च०), मञ्जमिक (भो०), मञ्जिरक (हे०); ३६ (जै०) omits; ३७ आरेखन (शा०), च० भो० omit; ३८ शा० हे० omit, ३९ शा० भो० हे० omit; ४० वर्तनाक्ष (च० भो० ग०), वर्तनर्क्ष (हे०), वर्तनक्ष (शा०), जै० omits; ४१ हे० omits; ४२ जै० omits; ४३ वृक्षाक (शा०), बृक्षाक (च०) वृक्षक (जै०), मृक्षाक (भो०); ४४ नभाग (भो० ग०) ४५ उर्णनाभ (का० भो० ग०); ४७ च० जै० शा० हे० omit; ४८ रोहितिका (जै० भो०), पुरोहितिका (च० ग०), सुरोहिका (शा०), हे० omits; ४९ आर्यश्वेता (च० शा० जै० हे० ग०); ५० सुपिष्ण (भो०); ५१ खर्जुरकर्ण (जै० भो० ग०), च० शा० हे० omit; ५२ मसुरकर्ण (शा० ग०), मसुरकर्ण, मसूरकर्ण (हे०), च० जै० भो० omit; ५३ शा० हे० ग० omit; ५४ जै० शा० हे० omit; ५५ खडूरक (च० हे०), खदूरक (भो० ग०) स्वदूरक (शा०), जै० omits; ५७ ऋषिषेण (शा०), जै० omits; ५८ विपाश् (शा० हे०), विपाश (च० भो०), विपाट (ग०); ६० भ्रद्य (शा०), द्रुह्य (च० जै० भो० हे० ग०), द्रच्य (शा०); ६३ अयस्थूण (च० जै० हे० ग०), अयस्थूल (शा०), ६४ कलम्बन (चा०), भलन्द (शा०), मलन्द, भलम्बन

(हे०); ६५ विरूपाक्ष (जै०); ६६-६७ शा० omits; ६६ द्वयचोनद्याम् (च०), शा० हे० ग० omit.

७० त्रिवेण्यास्त्रिवेणं च (भो०), त्रिवणदेशे त्रिवेणी च (ग०), शा० हे० omit.

Additional names—कबोध, परल, ग्रीवाक्ष, गोभिलिक, राजल, ताडक (का० टि०), कह्लय (का० टि०), कहय (ग०), वडाक (का० टि०), वडवा (ग०), ककुभ (च० भो० हे० ग०), कपिलिका (च० भो०), कपिलक (हे०), कपिलिक (ग०), कत्नलक (शा०), सुलेख (च०), सुलेखन (भो०), उत्काक (च० ग०), काक (भो०), काय्या (हे०), उत्काय (च०), उत्कोय (जै०), उत्क्रेया (शा०), उत्केया (हे०), कहूय (जै० शा० भो० हे०), त्रिभाग (जै०), विरल (जै०) अरलविरल (भो०), उरल (ग०), विकट (जै० हे०), खरवार, वज्ज (शा०), कुब्जा (शा० हे० ग०), कोकिला (हे० ग० शा०), कपिञ्जल (भो०), कुपिञ्जल (ग०), कुरु (भो० ग०), पाण्डु (भो० हे० ग०), वर्षिका (भो०), पर्पिका (ग०), पृथा, (भो० ग०), हस्तिपाद (भो० ग०), ब्रह्मगुप्त (भो० ग०), पिलखर, वर्तन, ऋक्ष, शिलिन्द, रोहिल, गडरेक, पीठीनासा, विरूर, महिश्री (हे०), विपाद, कुल्हडोपरथ, गोपाम्बिका (ग०) ।

(२१) शुभ्रादि (४।१।१२३)

[शुभ्रादिभ्यश्च । शौभ्रेयः]

१ शुभ्र, २ विष्टपुर, ३ ब्रह्मकृत, ४ शतद्वार, ५ शतावर, ६ शलाका, ७ शालाचल, ८ शालाकाभ्रू, ६ लेखाभ्रू, १० विमातृ, ११ विधवा, १२ कुकसा, १३ रोहिणी, १४ रुक्मिणी, १५ दिशा, १६ शालूक, १७ अजवस्ति, १८ शकन्धि, १६ ॥ लक्षणश्यामयोर्वसिष्ठे ॥, २० गोधा, २१ कृकलास, २२ अणीव, २३ प्रवाहण, २४ भरत, २५ भारम, २६ मृकण्डु, २७ मघष्टु, २८ मकष्टु, २६ कर्पूर, ३० इतर, ३१ अन्यतर, ३२ आलीढ, ३३ सुदत्त, ३४ सुचक्षस्, ३५ सुनामन्, ३६ कद्रु, ३७ तुद, ३८ अकशाप, ३६ कुमारिका, ४० किशोरिका,

४१ कुवेणिका, ४२ जिह्वाशिन, ४३ परिधि, ४४ वायुदत्त, ४५ ककल, ४६ खट्वर, ४७ अम्बिका, ४८ अशोका, ४९ शुद्धपिङ्गला, ५० खडोन्मत्ता, ५१ अनुदृष्टि, ५२ जरतिन्, ५३ बलिवर्दिन्, ५४ विग्रज, ५५ बीज, ५६ श्वन्, ५७ अश्मन्, ५८ अश्व, ५९ अजिर।

References—का० ४।२।१२३, च० २।४।९३, जै० ३।२।११२, शा० २।४।९९, भो० ४।१।१०९–११२, हे० ६।१।७३, गण० श्लो० २१८–२२३।

Variants—२ विष्टपुर। विष्टपर (शा० हे०); ४ शरद्वार (च०), शरद्वत (भो०); ५ शतहार (जै०), शताहर (शा० ग०), शताहार (हे०), च० भो० omit; ६ सलाका (जै०), च० हे० omit; ७ शलाथल (च० जै० ग०), शलाधिक (शा०), शलाम्थल (भो०), शालाघल (हे०), ८ शा० omits; ९ भ्रूरेखा (शा०); १० बिमातृ (जै०), च० omits; १२ किकशा (हे०), विकसा (ग०), शा० omits; १३ भ्रूरोहिणी (शा०); १४ शा० omits; १५ दिश (च०), शा० हे० omit; १६ शालूका (जै०); १७ अजबस्ति (च० हे०), १८ सकन्धि (जै०), १९ लक्षणश्यामयोर्वासिष्ठे (च०), लक्ष्मणश्यामयोर्वाशिष्टे (जै०), वासिष्ठे श्यामलक्ष्मणौ (ग०), शा० हे० omit; २१ कुकलासा (भो०); २२ अणि वि (शा०), च० जै० हे० omit.; २४ भारत (शा० हे० ग० च०); २५ भागर (जै०), भरम (भो०), २६ मुषंडु (जै०) शा० omits; २७ च० जै० शा० भो० ग० omit; २८ मकुष्ट (जै०), च० omits, २९ शा० omits, ३२ आलोट (जै०); ३३ सुदन्त (च० ग०); ३४ सुदक्ष (च० जै० भो० हे० ग०), सवक्ष (शा०), ३५ सुनामन (का०), च० omits; ३६ कद्रू (शा० हे०), ३८ अकशाय (च० ग०), ४० कसेरुका (जै०), शा० हे० omit, ४१ कुवेरिका (जै० शा०), कुबेरिका (भो० हे० ग०), ४२ जिह्वाशिन् (हे०), जिह्वासिन् (भो० जै०); ४४ शा० हे० omit; ४५ all others omit except (का०); ४६ खदूर (शा० भो० ग०), खड्डूर (हे०); ४८ अशोक (जै० ग०), ४९ गन्धपिङ्गला (च० जै० शा० भो० हे०), ग० omits; ५० खरोन्मत्ता (जै०), खडोन्मत्ता (हे०), मदोन्मत्ता (शा०), ५१ अनुदृष्टि (च०), जै० शा०

omit; ९२ जै० शा० हे० omit; ९३ बलीवर्दिन् (भो०), च० शा० हे० omit; ९४ विप्र (शा० भो० हे० ग०), ९५ वीज (जै०), वीजाश्व (शा०); च० जै० omit; ९६ श्वन् (शा०); ९७ च० जै० शा० हे० omit; ९८ शा० omits; ९९ अजि (जै०) ।

Additional names—स्थूल, मकथु, मृकण्ड, रुद, कुशेरिका, (का० टि०), सुकण्डु (शा० हे०), सुकण्डू (का० टि०), यमष्टु (का० टि० च० भो०), कष्टु (का० टि०), कमष्टु (च०), गुद (का० टि० च०), शकल (का० टि०), शबल (का० टि० च०), शवल (हे०), शबला (जै०), उग्र (का० टि० च० भो० ग०), अजिन (का० टि०), धर्मिणी (च० भो० ग०), सुदामन् (च० जै० शा० भो० हे० ग०), कुशाम्ब (च० हे० शा०), कुशाम्ब (भो० ग०), कुशाम्बा (जै०), देवतर (च० भो० ग०), शुक (च० भो० ग०), स्रक (शा०), शुक्र (च० जै० शा० भो० हे० ग०), कुदन्ता (च० जै०), कुदत्त (हे०), कुदत (शा०), गोदन्त (भो० ग०), अतिथि (च० भो० हे० ग०), मृदु (च० भो० ग०), अहि (च०), विस्र (जै०), विश्रि (भो० ग०), विकचा, इलिका, प्राणि, स्वष्वर (जै०), विवसा (जै० हे०), विकणाचि (जै०), कणीचि, मणीचि (हे०), शतल (शा० हे० ग०), कर्मार (शा०), वाधन (शा०), बन्धकी (ग०), विकसा, मवक्र, मखण्डु (शा० हे०), भाणु (शा० हे० ग०), सुवक्षस् (भो० ग०) ।

शुभ्रादि A names—

विश्र (भो० ग०), अनिधि (भो० ग०), गङ्गा (भो० हे० ग०), पाण्डु (भो० हे०), पाण्डव (ग०), कर्षूं (भो०) कर्ष (ग०), मृत (भो०), मृद (ग०), शकुनि (भो० हे० ग०), क्षीजाश्व, किट (टिक) (हे०), कुठारिका, जीव (भो० ग०), टिक (ग०), वादन (ग०) ।

(२२) हरितादि

(बिदाद्यन्तर्गणः)

See Vidādi No. 14.

(२३) कौड्यादि (४।१।८०)

[कौड्यादिभ्यश्च । कौड्या]

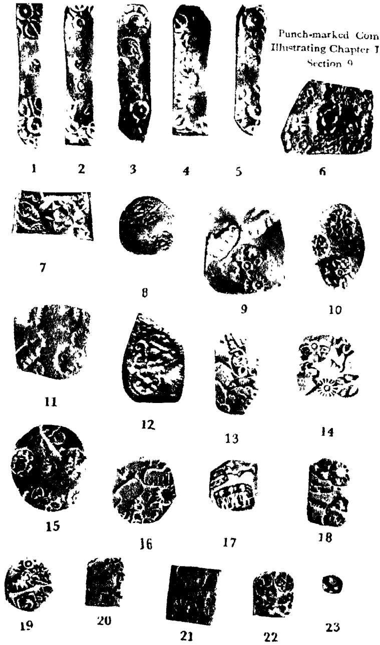
१ कौडि, २ लाडि, ३ व्याडि, ४ आपिशलि, ५ आपक्षिति, ६ चौपयत, ७ चैटयत, ८ शैकयत, ९ बैल्वयत, १० सौधातकि, ११॥ सूतयुवत्याम्॥, १२॥ भोज क्षत्रिये॥, १३ भौरिकि, १४ भौलिकि, १५ शाल्मलि, १६ शालास्थलि, १७ कापिष्ठलि, १८ गौकक्ष्य ।

References—का० ४।१।८०, च० २।३।८४, जै० ३।१।६९, शा० १।३।४, भो० ३।४।१३१-१३४, हे० २।४।८०, गण० श्लो० ३६.

Variants—१ क्रोढ (शा०), २ आढ (शा०); ३ व्यढ (शा०), च० omits; ४ आयिशिलि (हे०), आपिशल (शा०); ५ आपिक्षिति (च०), अपक्षित (शा०); ६ चोपयत (शा० ; ७ चेटयत (शा०); ८ सैकयत (च० जै० भो० हे० ग०), शिकयत (शा०); वैल्वयत (जै०), बैल्ववत (च०), शा० omits; १० शा० omits; ११ सूत शब्दाद्युवत्यास्य (जै०); सूतस्य युवत्याम् (भो०), सूतवाग्युवतौ (ग०); १२ भोजात्क्षत्रियजातौ (जै०), भोजस्य क्षत्रियायाम् (भो०), क्षत्रिय वाच्यो भोजश्च (ग०), शा० हे० omit.; १३ भूरिर्क (शा० ; १४ भूलीर्क (शा० ; जै० omits; १५ च० जै० शा० omit; १६ शालास्थल (शा०), सालास्थलि (जै०), भो० omits; १७ कापिष्ठलि (जै०), कपिष्ठल (शा०); १८ गौकक्षा (जै०), च० शा० हे० भो० ग० omit.

Additional names—शीतयत, शालासुधात्री (शा०), चैकयत (भो० हे० ग०), दैवदत्ति (भो० हे० ग०), रौढि, याज्ञदत्ति (हे०), कौटि (ग०).

Punch-marked Coins
Illustrating Chapter IV
Section 9



KEY TO PLATE SHOWING PUNCH-MARKED COINS

FIGS. 1-5. *Śatamāna* coin (pp. 262-3). Bent-bar silver punch-marked coins from Takshaśilā. Wt. 175 to 178 grs. or 100 *rattis*. Pāṇini V. 1.27.

FIG. 6. *Triṁśatka* coin (pp. 272); Pāṇini V. 1.24. Silver punch-marked from Lucknow, with 14 symbols, obverse (big) and reverse (small) punched on one side only. Wt. 105.7 grs. = 57.7 *rattis*, i.e. 60 *ratti* or 30 *māsha* standard, as the name implies. Coinage of the ancient Kosala Janapada, as also No. 7.

FIG. 7. *Triṁśatka* coin, as No. 6. From Partabgarh. Wt. 104.4 grs. with 1 obverse and 5 reverse symbols punched on the same side.

FIG. 8. *Viṁśatika* coin (pp. 269-71); Pāṇini V. 1.27; 32 From Madhuri, Shahabad Dt., coinage o Magadha Janapada current in the time of King Bimbisāra (6th cent. B.C.). Wt. 40 *rattis* (*Vīsatumāso Kahāpano*). Two prominent symbols on one side only.

FIG. 9. *Viṁśatika* coin. From Bhabhua, Bihar. Wt. 40.2 *rattis*. Obverse symbols, Sun, Six-armed symbol with 3 ovals and 3 arrow-heads. Bull and Lion; more evolved than No. 8, and hence of the time of Pāṇini (5th cent. B.C.).

FIG. 10. *Viṁśatika* coin of alloyed silver. From Madhuri. Wt. 68.4 grs. = 38 *rattis*. Four obverse symbols, two bigger, two smaller, two of them being identical; transitional stage between Nos. 8 and 9. *Tri-Viṁśatika* (120 *rattis*), *Dvi-Viṁśatika* (80 *rattis*) and *Adhyardha-Viṁśatika* (60 *rattis*) (*Kāśika* on V. 1.32) and also *Ardha-Viṁśatika*

seem to have been actual coins (*J. N. S. I.*, Vol. XV, Pt. p. 38).

FIG. 11. Silver punch-marked coin from Patna, identified as *Pāda-Śatamāna* or one quarter of *Śatamāna*. Wt. 45 grs. = 25 *rattis*. Size .8" x 8".

FIG. 12. Silver punch-marked coin from Partabgarh, identified as *Ardha-Śatamāna* or one-half *Śatamāna*. Wt. 44.98 *rattis* = 80.95 grs. Two obverse symbols and one small symbol punched on one side only.

FIGS. 13-20. Silver punch-marked coin or *Kārshapāṇas* (pp. 264-66) of the wt. standard of 32 *rattis* ; actual wt. is more often a little less owing to wear and tear. They bear on the obverse a regular group of five symbols (*rūpa*, V. 2.120) of which two are constant, viz., Sun and Six-armed symbol, which is often designated by numismatists as a *Shaḍara Chakra*. This symbol holds the key to the age of the coin by the varying forms of its spokes, consisting on some of three ovals and three taurines (No. 15), on others of three ovals and three arrow-heads (Nos. 13, 14, 18), and on some of three taurines and three arrow-heads (Nos. 19, 20). The first variety (Early) may be assigned to the fifth, the second (Intermediate) to the fourth, and the last (Late) to the third century B.C. (Maurya Period). The coin shown as Fig. 17 is specially noteworthy, as on it the Sun and Six-armed symbols have been replaced by a group of three human figurines. This specimen comes from Charsadda in the Peshawar district (ancient Pushkalāvatī, capital of Apara-Gandhāra).

FIG. 21. A punch-marked *Kārshāpaṇa* coin of copper with traces of thin silver plating on it, having a regular group of five symbols and a wt.

standard of 32 *rattis*. These specimens seem to represent the debased coinage of the Mauryan administration introduced to replenish the exchequer or meet some unusual drain on the currency.

FIG. 22. A Half-*Karshāpaṇa*, 16 rattis (actual 14.6 *rattis*) in wt., called *Ardha* and *Bhāga* in the *Ashṭādhyāyī* (V. 1.48-49; p. 266) and *Ardha* by Kauṭilya and Kātyayana (VI. 1.25).

FIG. 23. *Raupya Māsha* (p. 268), minute silver punch-marked coin of 2 *ratti* wt. = 3.5. grs. From Takshaśilā. Stamped wifh a single symbol on one side. The *Kāśikā* also refers to *Adhyardha-Mashaka* (1½ Māshaka coin of 3 *rattis*), *Dvi-Māshaka* (2-*Māshaka* coin of 4 *rattis*) and *Tri-Māshaka* (3-*Māshaka* coin of 6 *rattis*) (*Kāśikā*, V. 1.34; *J.N.S.I.*, Vol. XV, Pt. 1, p. 39).

SANSKRIT INDEX

SUBJECT INDEX